

JUL 23 1941

The Newspaper of the Industry

Issued Every Wednesday at Detroit, Michigan

JULY 23, 1941

Single Copy—20 cents. \$4.00 Per Year

Vol. 33, No. 12, Serial No. 644. Established 1926

Written to be Read on Arrival

Member Audit Bureau of Circulations
Member Associated Business Papers

Air Conditioning & REFRIGERATION



NEWS

Household Refrigerator Production Will Be Cut 50 Per Cent To Conserve Defense Materials

OPACS To Study Air Conditioning Industry's Place

Manufacturers Explain Their Functions and Needs At Meeting

WASHINGTON, D. C.—Air conditioning, industrial, and commercial refrigeration—and how manufacturers of such equipment can readjust to meet the demands of the rearmament program—were discussed before members of OPACS (Office of Price Administration and Civilian Supply) by a group of industry representatives Wednesday, July 16.

Meeting in the basement of the not-quite-finished apartment house building on Q St. in which OPACS officials have established offices, various manufacturers told of their difficulties in getting steel and other critical materials, and of their efforts to transform their businesses into supply sources for the army and navy.

Joseph Weiner, Associate Administrator of OPACS conducted the meeting, turning it over later to Dr. Arthur Burns, research director, for a further fact-finding session. Dr. Reavis Cox and W. N. Parker of OPACS assisted in the inquiry.

Led by William B. Henderson, executive vice president of the Air Conditioning & Refrigerating Machinery Association, various manufacturing representatives explained the functions performed by air conditioning and refrigerating machinery, told about the rising tide of their direct and indirect (for use in armament plants) "defense"

(Concluded on Page 12, Column 5)

Henry Knowlton Heads Airtemp Promotion



HENRY KNOWLTON

DAYTON, Ohio—Henry Knowlton has been appointed sales promotion manager of the Airtemp division, Chrysler Corp., announces D. W. Russell, president. Mr. Knowlton will study the application of air conditioning, refrigeration, and heating equipment to selected vocational fields as part of the company's new dealer development and field training program.

(Concluded on Page 12, Column 4)

Heads All Sales



CHARLES T. LAWSON has succeeded Frank R. Pierce as general sales manager of Kelvinator. He formerly was sales manager of the household appliance division. Mr. Pierce is now vice president in charge of sales of Nash-Kelvinator Corp., in charge of all sales operations of the entire company.

Parts Jobber Assn. Takes Story of Its Needs To OPACS

BOSTON—National Refrigeration Supply Jobbers Association has made several moves in the present crisis in materials designed to help the lot of the refrigeration parts and supplies jobber, reports C. E. Borden of the A. E. Borden Co. here, president of the N.R.S.J.A.

Members of the association have discussed the importance of refrigeration with the Office of Price Administration and Civilian Supply in Washington. It was pointed out to OPACS that the jobbers' highly technical and diversified stocks are important local factors in the preservation of foodstuffs. The point was also made that the average jobber could not keep his doors open on the volume of business carrying priority numbers.

A campaign is being waged to get in empty refrigerant gas drums, and collections are being stressed in order to keep accounts in a healthy condition.

The association also conducted a survey of about 70 manufacturers who furnish the stock which lines the jobber's shelves. Cooperation was close to 100% on this survey.

Kjerner & Moran Form Fedders-New York Co.

NEW YORK CITY—Formation of Fedders-New York Co. to handle sales of products made by Fedders Mfg. Co., New York Blower Co., and Scott Valve Mfg. Co. has been announced by John C. Kjerner. Offices are located at 415 Lexington Ave.

Mr. Kjerner has been associated with the air conditioning field since 1926, most recently with Trane Co.

Associated with Mr. Kjerner in Fedders-New York Co. is Eugene J. Moran, formerly of Moran & Brown and long associated with Fedders.

The Situation At a Glance

Household refrigeration . . . production to be cut 50%, with quota of 150,000 units per month established by Leon Henderson, Civilian Price and Supply Office administrator.

* * *

Commercial refrigeration . . . hearings held, no decisions made as yet; expect some action within two or three weeks.

* * *

Refrigeration repair parts, both household and commercial refrigeration . . . now have A-10 priority rating.

* * *

Air conditioning . . . hearing held, no action yet; production cut is "predicted."

No Refrigerator Bids Are Submitted For Housing Project

HARTFORD, Conn.—That the defense program's impact is already being felt by the refrigerator industry was indicated at the office of the Hartford Housing Authority here July 15, when no bids whatever were submitted on refrigerators for Bellevue Square, the authority's non-defense housing project.

Only a single bid for gas ranges for this project was opened, with the defense program here again apparently responsible for the scarcity of interest.

The authority had advertised for bids on 502 refrigerators for Bellevue Square and 1,001 refrigerators for Charter Oak Terrace, a defense housing project. General Electric Co., through its local distributor, Orkil Electric Co., bid \$69,663.80 for the Charter Oak Terrace units. This was the only refrigerator bid received. Another company returned the specifications for the Bellevue Square bid, together with a letter

(Concluded on Page 12, Column 2)

C.I.T. To Clamp Down On Appliance Terms

NEW YORK CITY—Maximum terms offered by C.I.T. Corp. on major household appliances will be reduced from 36 to 30 months, beginning Aug. 1, while the required down payment will be increased to 10% of the sales price.

These new terms will apply only to New York City for the present, but it is expected that they will soon be extended nationally, according to S. D. Maddock, vice president in charge of industrial business for C.I.T.

"For the past several months C.I.T. has been considering a reduction in terms available on major household appliances," Mr. Maddock explained. "The terms announced are as short and in some cases shorter than those recently adopted by the Electric Home & Farm Authority, the government finance company handling electrical appliances. It is our feeling that this reduction will serve the present needs of the defense program without placing too great a burden on the consumer."

The 21 C.I.T. offices in New York metropolitan area are advising dealers of the change in instalment terms. C.I.T. maintains more than 250 offices throughout the country.

Cloud Wampler Elected Executive Vice President Of the Carrier Corp.



CLOUD WAMPLER

SYRACUSE, N. Y.—Cloud Wampler, president of Stern, Wampler & Co., Inc., investment banking firm, has been elected executive vice president of Carrier Corp., and will assume his new duties on Sept. 1.

Mr. Wampler, a member of the investment banking fraternity for 25

(Concluded on Page 12, Column 5)

Cheer Air Conditioning At Arizona Army Post

PHOENIX, Ariz.—Out at Luke field, new United States Army Air Corps advanced training school near here, where summer temperatures often soar over the 100° mark, a warm reception greeted the news that the War Department had authorized installation of an air conditioning system for the barracks. The barracks, where 1,500 soldiers are now stationed, was recently redesigned to house the 3,000 men expected by October.

Chicago Cooling Sales Smash 6-Mos. Record

CHICAGO—Unprecedented expansion of comfort cooling in restaurants and offices boosted Chicago sales of central-plant air conditioning systems in the first half of 1941 to the highest six-month level in history, according to reports compiled by

(Concluded on Page 12, Column 3)

150,000 Units Per Month Set As Quota Now

Household Washers Also Due To Get 'A Drastic Cut'

WASHINGTON, D. C.—Production of mechanical refrigerators and household laundry equipment would be cut as much as 50% during the next 12 months under a tentative program announced last Saturday by Leon Henderson, administrator of the Office of Price Administration and Civilian Supply.

It was also announced that similar production restrictions might be expected to be applied in the near future to such other industries as air conditioning, cooking and heating equipment, and miscellaneous household appliances.

Mr. Henderson's announcement said that the drastic curtailment program was "being undertaken with full realization of the possible dislocating effect of such a reduction on employment and operation of the economy generally, but it is necessitated by severe shortages of steel, nickel, copper, rubber, and other basic materials for these and other civilian durable goods industries."

Under the order, production of household mechanical refrigerators will be limited to a monthly maximum of about 150,000 units. The industry, which employs about 55,000 workers at peak production, is estimated to have produced about 3,253,000 units in the 12 months ended June 1, 1941.

Production of domestic washers and ironers will be subject to an initial reduction of 30% under the average for the last 12 months, with "more stringent" reductions scheduled to follow. At peak production, this industry employs about 10,300 workers, and turned out 1,787,000 washers and 225,000 ironers in the 12 months ended June 1.

The refrigerator and home laundry industries, along with the automotive industry, are the three largest consumers of the metals needed most urgently for defense purposes, Mr. Henderson asserted. He added that the curtailment program will necessarily be extended to others in the consumers durable goods field in the near future.

"Conferences are currently being held with a number of these other industries, including air conditioning, heating and cooking equipment, and miscellaneous household appliances," the announcement said.

"It is expected that this procedure will drastically reduce the need for an elaborate, detailed, and complex system of preferences for the wide range of civilian industries producing goods whose output cannot be postponed without danger to the welfare of the public."

"Complaints reaching OPACS from all over the country indicate that material shortages have been affecting different industries and companies disproportionately. It is becoming evident that unless prompt action of this type is taken, increasing needs of the defense program for raw materials will force complete shutdowns of many producers of civilian goods—wholly without regard to the relative need for their products."

(Concluded on Page 12, Column 3)

'Two-Bit' Payments on Small Appliances Build Floor Traffic For Larger Sales

TOPEKA, Kan.—To drum up an increased parade of floor traffic in its big appliance outlet here, the Ed Marling Electric Store has developed a "two-bit" time payment plan for small appliances.

"We make these low terms available to everyone, Mr. Marling explains. Any appliance costing less than \$10 is available on terms of 25 cents down and 25 cents per week, while items costing from \$10 to \$20 may be purchased for 50 cents down and 50 cents per week.

"This is simply our way of creating small appliance sales volume and heavy traffic for the store," he declares.

Every customer making a purchase on this plan is issued a book of receipt blanks, and must visit the store regularly to make his payments. Consequently he is frequently "exposed" to Marling's large

displays of major appliances, and often ends up by buying some of this higher priced merchandise. In this way, Mr. Marling points out, the store has made regular customers out of prospects who otherwise would have been lost to mail order houses and similar competition.

More than 60% of all customers who buy on the "two-bit" plan make a few weekly payments while testing out the appliance, and then come in and pay the balance in one lump sum, Mr. Marling reports.

Most often purchased under this low-payment plan are extra radios for odd rooms in the house, toasters and similar table appliances for gifts, and other useful merchandise such as electric shavers and pin-up lamps.

Credit losses on this plan have been less than 1%, Mr. Marling declares, despite the fact that it is offered to all types of customers.

'Primitive' Bartering Clinches Sales In Rural Market

WILSON, Okla.—In this era of streamlined selling methods, Charles Grad, refrigerator salesman in this small-town farming area of southern Oklahoma, has "gone primitive" and made it pay.

Adoption of a barter trading policy under which he often buys baby pigs and chickens for 4-H club members and receives grown livestock in return as partial payment on refrigerators has aided Mr. Grad in building up a profitable volume. Eleven sales were closed in one month.

The way is paved for this bartering and trading with farmers by winning the goodwill of his community through sharing its interest in farm activities. Mr. Grad actively participates, for instance, in the 4-H club farm program.

Mr. Grad uses the farm animals received in the barter deals on his 80-acre farm. Credit established because he has been in business in this section for over 20 years, has enabled Mr. Grad to handle such extraordinary sales contracts.

One of the many amusing incidents resulting from this "barter" selling involved the trading in, unseen, of an old "icebox" on a new refrigerator. The customer's "icebox" turned out to be 25 lbs. of ice wrapped in paper and a gunnysack. (P. S.: Mr. Grad didn't pick up the "trade-in.")

Utility Quotes Salesmen In Advertisements For Range Drive

ATLANTA—Salesmen themselves told the story of the advantages of modern electric cookery in a series of eight state-wide advertisements used by Georgia Power Co. as part of its summer appliance sales campaign.

Pictures and statements by top-ranking salesmen from all divisions of the company were used in the special newspaper campaign, to impress prospects with the values offered in the drive. First advertisement in the series featured W. H. Keaton, of Atlanta's west end store, the second H. R. Chappell, of the Atlanta main store, and the third W. Rupert Hobbs, of Rome.

Range advertisements featured Westinghouse and Universal units on alternating weeks. Five refrigerator and three water heater advertisements also were run in dailies during the drive, in addition to five insertions in weekly papers in the territory.

Spot radio announcements on ranges, refrigerators, and water heaters were used on radio stations covering the area, including WAGA and WATL in Atlanta. This was in addition to WGST, Atlanta, on which the utility's morning serial, "Just Home Folks," featured the three major appliances during the drive.

Dealer Aids In Setting Up Nursery To Build Future Goodwill

LOS ANGELES—Aiding mothers in the neighborhood to establish a nursery and playroom for their preschool children is the most recent community service project undertaken by Price Brothers, electric refrigerator and appliance dealer here, with an eye to building goodwill and future business.

These mothers of the "average-income" group wanted a place where they could bring their little children while they shopped and visited, and where they themselves could be trained in child welfare.

Price Brothers cooperated by helping to supply equipment for the project, and by taking advertisements in the local newspaper with the proviso that advertising expenses be turned over to the nursery fund.

Because of the relatively high expense involved, nursery schools are usually for upper income groups only. "We are certainly grateful to Price Brothers for their assistance, and will naturally do anything we can to help them," declared Mrs. Clara Robbin, president of the community group in charge of the project.

Do You Know These Fundamentals of Appliance Advertising & Merchandising?

Just published by Business News Publishing Co. (publisher of Air Conditioning & Refrigeration News) is a new book "Appliance Advertising & Merchandising." (Price: \$2.00.) Written by R. E. Mangan, who for the last 10 years has been advertising manager and merchandising expert for one of the largest appliance distributing firms on the west coast, the book is full of down-to-earth information on making advertising and promotion methods pay out.

Parts of "Appliance Advertising & Merchandising"—such as that below—will be published in the News from time to time, to give readers the benefit of some of Mr. Mangan's stimulating thinking, but primarily to create a desire on the part of the subscriber to get and read this very helpful book.

BY R. E. MANGAN

(From Chapter 6 "Newspaper Advertising" of the book, "Appliance Advertising & Merchandising.")

SPECIAL FEATURE PAGES COST YOU READERS

Every newspaper has several feature pages. Newspaper men tell a great selling story about the Woman's page. And it's a fact that this page does get intensive reading from women. But in appliance selling, both men and women must be reached with your sales message. So the Woman's page is out.

And for the same reason, any pages that appeal largely to men are not for you. Your advertising must be read by both men and women. For appliances are rarely bought unless both husband and wife are in agreement regarding the need and the brand to buy. Selling these points to both husband and wife is your advertising job.

The collage includes several advertisements for refrigerators and other appliances. Notable ones include:

- Westinghouse Refrigerators:** Features a large refrigerator with text about its features and a "Range Drive" advertisement.
- Frigidaire:** Multiple ads for various models, including a "1938 Standard Electric Range" and a "1938 FRIGIDAIRE" with a "METER-MISER" feature.
- Norge:** An advertisement for a "NORGE Refrigerator" with a "LARGE FAMILY SIZE" and a price of \$122.50.
- Other brands:** Includes ads for "HULBERT'S June Specials", "C. M. Sayers", and "MONEY-SAVING SENSATION!".

While this mass of refrigerator advertising might arouse some interest in refrigeration in general in the casual reader's mind, it is obvious that the individual advertisements are lost in a nightmare of competing display type and pictures. Any one of these advertisements would have been far more effective on a regular page in the newspaper, where more careful make-up and editorial material would enable the advertisement to gain better reader attention.

The best place to do it is in the main news section, as far forward in the paper as you can get. The only exception I can think of is page 1 of the second section. Many newspapers carry advertising on this page. If you can get it without tying yourself up to a big contract, go after this position.

SPECIALIZED SECTIONS ARE POISON!

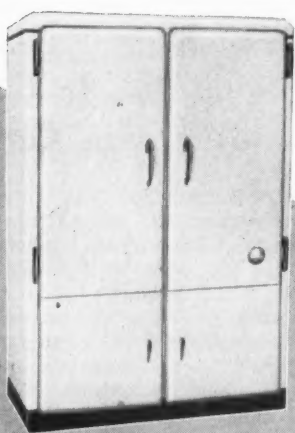
There probably never has been and never will be a special section with as great a readership as the main news section of the paper. And there have been few of them that did not start out as promotional efforts by the newspapers to get extra advertising from local merchants.

Today, most good newspapers use few if any special editions. For they realize that this type of advertising isn't good for you and their other customers, and will hurt the newspaper in the long run.

Aside from the loss in readership you suffer in a special section, because of being segregated from the regular news sections, advertisements of competitive merchants are placed side by side, and top to bottom. And this still further weakens your advertisement.

12 TO 71 CU. FT. MOST COMPLETE 'REACH-IN' LINE ON THE MARKET!

Here's the widest selection of sizes and styles the industry affords—a model for every need. Distinguished by superb styling, fine construction and outstanding value.



Model 120 (above) has 12 cu. ft. capacity—the newest member of the "Midwest 'Reach-in'" family.

Model 700 (right) another new model has 71.5 cu. ft. capacity. In between is a full range of sizes and equipment. Write for full details now.



Midwest

MFG. COMPANY
Galesburg, Ill., U.S.A.

Export Division, 176 W. Adams St., Chicago
New York Office, 1775 Broadway

Gilmer
BELTS
FOR SMALL DRIVES



SHOW 'EM and YOU'LL SELL 'EM

Have your distributor send you this EYE-FUL TOWER, the display stand that shows Gilmer V-Belts in the sizes most buyers need. They almost sell themselves and bring you a clear profit of \$15.40. With the EYE-FUL TOWER you get the Gilmer Handimeter that measures an old belt and gives the correct size in three seconds.

Gilmer F.H.P. V-Belts fit over 7800 different electric refrigerators alone... besides countless oil burners, stokers, air conditioners, beer pumps, water pumps, compressors, and other appliances.

Sell Gilmer Belts for all kinds of V-Belt installations—you can be sure of pleased customers—and welcome profits besides.

L. H. GILMER COMPANY

TACONY, PHILADELPHIA, PENNA.

Gilmer
BELTS



Have you written for your free copy of the latest edition of "America's Belt Bible"?

A.S.R.E. Compiles All Codes & Standards In Single Booklet

NEW YORK CITY—An eight-page pamphlet published by the American Society of Refrigerating Engineers presenting in outline form descriptions of the various refrigeration and air conditioning standards set up by the society during the past several years will be off the press and ready for distribution about July 30, it is announced. Entitled "Standards for Refrigeration," the new circular lists in a condensed, convenient form codes compiled, written, sponsored, and revised by members of the society.

A.S.R.E. standards covered include those on the refrigeration safety code, air conditioning equipment, portable air conditioning units, compressors, condensers, comfort conditions, condensing units, heat exchangers, locker plants, milk coolers, refrigeration piping, moisture removal, and the plant test code.

The introduction points out that the society has not attempted to legislate how any job should be done, but has simply aimed to bring together manufacturers in agreeing on proper methods of both rating and testing.

Standards affecting various industries or public interest are handled through American Standards Association sectional committees, projects of general refrigeration interest by joint committees of various organizations in the industry, and projects of concern to refrigerating engineers through committees of engineers only, with the society cooperating or leading in the work necessary to complete standards, readers are reminded.

Various A.S.R.E. codes are given individual treatment in short sections, including personnel of the committee which wrote the code, a history of its development, adoption, and, in some cases, recent revisions. Line cuts explain salient features of some of the standards.

Copies of the pamphlet will be distributed to all society members and will also be available without charge to the public. Requests should be addressed to the A.S.R.E. at 37 W. 39th St., New York City.

Goodrich Makes Several Sales Personnel Shifts

AKRON, Ohio—Recent changes in the sales personnel of the B. F. Goodrich Co. here have been announced by W. S. Richardson, general sales manager of the mechanical division of the company.

O. C. Mueller has been transferred as sales representative from Cincinnati to Pittsburgh, and is succeeded at Cincinnati by A. C. Lutz; J. M. Cooney is transferred from Cincinnati to Dayton, Ohio; B. E. Silver, formerly with the manufacturers' sales department in Washington joins the hose sales department at principal company headquarters in Akron; and J. V. Powers, sales correspondent in the New York district office becomes field representative of the district with Albany headquarters.

Ditzell To Manage Shafer Bearing Corp.

CHICAGO—During the absence of M. J. Tennes, Jr., president of Shafer Bearing Corp., who has entered active service as captain in the U. S. Army Air Corps at Phoenix, Ariz., management of the company will be under the direction of John F. Ditzell, vice president and general manager.

Mr. Ditzell is well known in the refrigeration industry as an executive formerly with Electrolux, Majestic, Stewart-Warner, and later with RCA Mfg. Co.

The company is active in the industrial phase of the defense effort, supplying large quantities of bearings to large aircraft manufacturers such as Douglas, Martin, Boeing, North American, Lockheed, Curtiss-Wright, etc., and to such production industries as steel mills, machine tool builders, ship builders, tank builders, etc.

Wyoming Dealers Back Air Cooling Drive

CASPER, Wyo.—Cooperating with five dealers here, the Mountain States Power Co. is conducting a sales campaign on air conditioners and evaporative coolers featured by large space advertisements urging the installation of air cooling equipment.

The dealers are: Electric & Gas Appliance Co., Radio & Neon Laboratories, Emil Hirschfeld Plumbing, Heating & Air Conditioning Co., Montgomery Ward, and Western Stoker & Heating Service.

Names of dealers are listed in the advertisements, but no mention is made of brand names. Individual dealers, however, are running their own advertisements to tie in with the campaign. Queries received by the utility from the advertisements are being turned over to dealers for follow-up.

New Beer Unit Top Has Neon Lighting

ERIE, Pa.—Neon lighting is being used as a stimulator for draught beer sales at the bar in a four-color lighted dispenser top recently introduced by Uniflow Mfg. Co., manufacturer of beer dispensing systems.

The new-type dispenser top displays the tavern's name in lighted letters along the top of the bar, and is designed to act as a permanent sales booster for draught beer dispensed by the Uniflow system.

Weber Shows 1940 Profit of \$58,692

LOS ANGELES—Net profit of \$58,692.09 for 1940 which paid \$1.68 per share on 34,988 cumulative preferred stock outstanding, has been announced by Karl Weber, president of Weber Showcase & Fixture Co., Inc. Net sales for 1940 amounted to \$2,021,675, the company's best volume since 1929.

Receipt of \$1,000,000 worth of government orders for refrigerator units and an expanded commercial business stimulated by the national defense program are pushing 1941 operations well ahead of last year, Mr. Weber reports.

The company now employs 500 workers, 25% more than in 1940, and is making further additions as rapidly as possible, Mr. Weber declared.

Doolan Fixture Co. Is New S. Carolina Firm

FLORENCE, S. C.—Jimmy Doolan has opened a commercial refrigeration dealership here under the name of Doolan Fixture Co.

Until recently, Mr. Doolan was district representative for Palmetto Fixture & Notion Co., Charleston, S. C.

While with this firm he won the national prize for commercial refrigeration equipment sales offered by Warren Refrigerator Co. during the last quarter of 1940.

Hoyt Appointed To Airtemp Field Job



J. E. HOYT

DAYTON, Ohio — J. E. (Jess) Hoyt, who has been associated with Airtemp division of Chrysler Corp. as special assistant to D. W. Russell, president, has been appointed a regional sales supervisor.

Mr. Hoyt will work closely with Airtemp dealers and the company's field organization in the northern region, making his headquarters in Dayton.

Prior to joining the Airtemp staff, Mr. Hoyt was sales manager of the Pre-Cast Unit Co. of Kalamazoo, Mich.

Wolverine Tube Nets \$300,166 For Half

DETROIT—Wolverine Tube Co. reports for the six months ended June 30, 1941, subject to audit and year-end adjustments, net profit of \$300,166 after depreciation and federal income taxes. This is equivalent, after provision for preferred dividends, to 82 cents a share on 352,044 shares of common stock, it is reported.

This compares with net profit of \$192,192 for the six months ended June 30, 1940, or 45 cents a share on 396,122 shares.

Sales for the first six months of 1941 totaled \$5,054,841, against \$2,848,445 for the corresponding period in 1940. During this period 4,000 shares of common stock were sold to employees from an allotment of 10,000 shares and 48,078 shares of common stock previously outstanding were acquired for the treasury of the company.

A large part of a huge backlog of unfilled orders is for defense purposes, and plans have been formulated for any additional facilities that may possibly be needed for the present emergency, the firm announces.

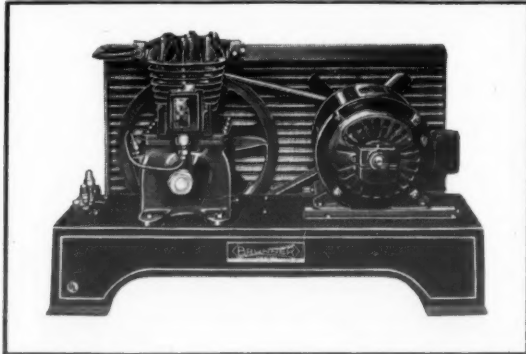
Current assets as of June 30, 1941 amounted to \$2,078,897, including cash and government securities of \$604,634. Current liabilities are \$433,787. This compares with current assets of \$1,635,216, including \$200,880 of cash and government securities, and current liabilities of \$338,661 on June 30, 1940.

P's and Q's OF DEPENDABLE REFRIGERATION

The accelerated trend by manufacturers of refrigerated coolers and display cases to specify Brunner condensing units is of particular significance. It is proof that these modern condensing units have all the characteristics required to provide dependable refrigeration regardless of the application. Improved construction and engineering features of Brunner units assure continued performance with low operating and maintenance cost. In addition, the good will that manufacturers derive from customer-satisfaction through dependable operation is a sales and profit angle worth many dollars. Brunner units carry the Underwriters' Laboratories approval and the U. L. Seal. Available in a full range of capacities from 1/4 to 25 tons of refrigeration. Write Brunner Manufacturing Co., Utica, N. Y., U. S. A.



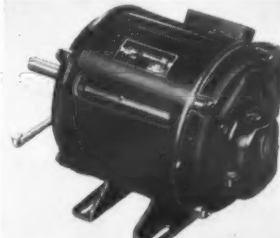
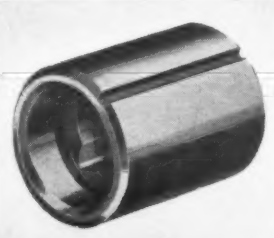
1 TROUBLE-FREE performance at low operating cost is a plus feature built into every Brunner.



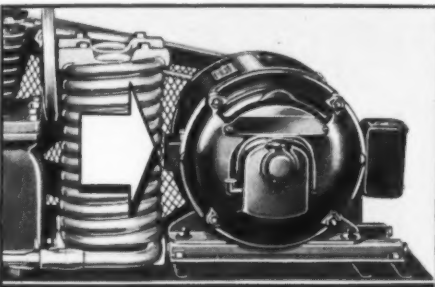
2 COMPACT—Brunner condensing units are designed for compactness. They fit into small spaces releasing more room for the display and storage of food products.



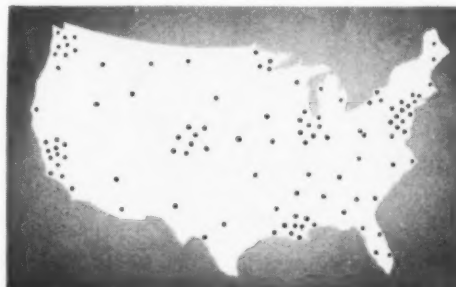
3 NO VIBRATION—Brunner units are designed and engineered by refrigeration experts. Smooth, quiet and efficient performance is built in. All moving parts are dynamically balanced for vibrationless, wear resistant service assuring long life and low operating cost.



4 INTERCHANGEABLE—The all-in-one valve assembly, bronze bearings, silent eccentric drive, wear ever shaft, bellow seal assembly, cylinder heads and all other moving parts are precision machined. New parts are perfectly interchangeable with original units permitting important service savings.



5 OVERLOAD PROTECTION... Automatic reset integral overload protection (up to 1 h. p. incl.) prevents motor from burning out. Continuous refrigeration is assured, thus preventing spoilage.



6 EXPERT FIELD engineers are stationed in all parts of the United States. They are available for consultation in the solution of any refrigeration problem. Their practical experience will prove invaluable.

Manufacturer of refrigerated cases reports...

"It will be of interest to you to know that we have no occasion to be called to service any Brunner unit installed by us. Our customers are more than satisfied with the dependable, trouble-free performance of their Brunner equipment and particularly appreciate the low operating costs. Your engineering cooperation has also been most helpful."

Your business, too, can benefit with Brunner dependability and engineering service. Write us for the "reason why" of Brunner popularity.

BRUNNER
REFRIGERATION

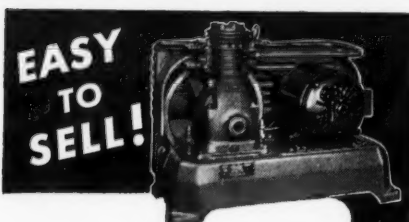
SEND for the "inside story". Brunner superiority illustrated point by point.

GET THESE
MONEY
SAVING
FACTS

Morgan Named Dealer For G-E In Columbus

COLUMBUS, Ohio — Harry L. Morgan Co., 65½ E. Gay St., long specialist in office equipment, has been appointed downtown dealer here for the General Electric air conditioning line. Mr. Morgan is president of the firm, James Morgan is vice president, and Theodore Yaple, secretary-treasurer.

Upon completion next fall of remodeling operations now under way, the firm will move into the four-story building at 208-10 S. High St. which it recently purchased. Coincidentally with the firm's twenty-fifth anniversary, the expansion move will enable stocking and display of larger and more diversified lines.



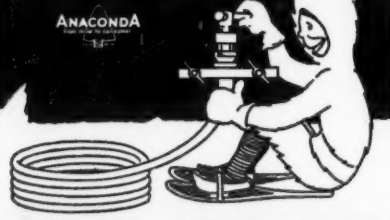
More than 20 years of high reputation...in every kind of refrigeration service...has established the name "Lipman" as a BUY word that breaks down sales resistance. Make this reputation your sales asset...for greater profit and better customer satisfaction.



GENERAL REFRIGERATION DIVISION
Yates-American Machine Co.
Dept. AC-1 Beloit, Wisconsin

Anaconda Copper Refrigeration Tubes

No cracks or splits when flared against a block

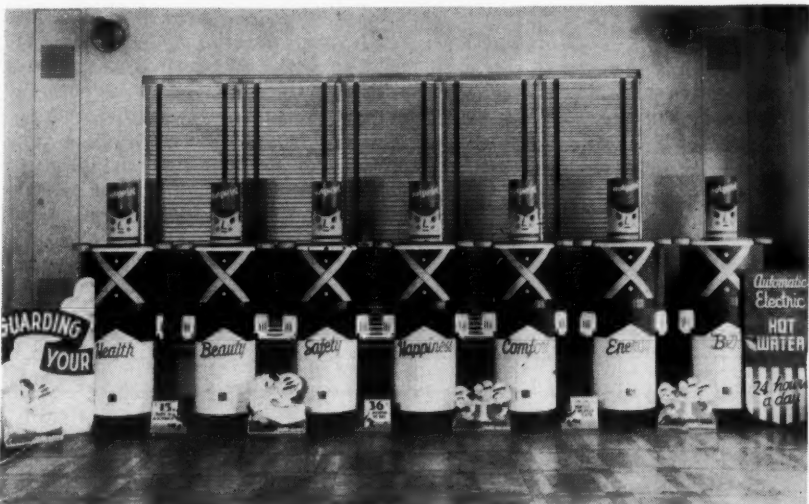


THE AMERICAN BRASS CO.
FRENCH SMALL TUBE BRANCH
General Offices, Waterbury, Conn.

Display Ideas That Won Cash



Donald Duck deluged with letters (that seemed to be pouring on to him because they were mounted on a panel that was continuously turned) won first prize for C. M. Griffin of Ohio Edison Co., Youngstown, in the Modern Kitchen Bureau electric water heater window display contest.



Water heaters were converted into "guardsmen," giving this floor display a defense angle which won first prize for D. N. Merrell of Ohio Power Co., Tiffin, in the floor display contest.

Ohio Men Sweep Major Prizes In Water Heater Display Competition

NEW YORK CITY—C. M. Griffin, display manager of the Ohio Edison Co.'s Youngstown office won \$150 in prizes for his office in Modern Kitchen Bureau's Spring, 1941, electric water heater window display and floor demonstration contests.

Not only did he win for the second successive time the \$100 first prize in the window display contest, but

he walked off with the \$50 second prize in the Bureau's first floor demonstration contest.

D. N. Merrell, manager of sales for the Tiffin, Ohio, offices of the Ohio Power Co., won the first prize in the latter contest.

Second prize in the window display contest was awarded to W. Gilbert Brown, supervisor of the bureau of exhibits and displays of the Philadelphia Electric Co.

Ten additional third prizes were awarded in both contests.

Mr. Griffin's window display created the effect of a continuous stream of letters being received by Donald Duck in praise of electric water heating.

Mr. Merrell's floor display used a line of electric water heaters dressed as soldiers, each stressing one advantage of electric water heating.

Third prizes in the window display contest were awarded to: F. S. Wahl, Jr., Buffalo Niagara Electric Corp., Niagara Falls, N. Y.; C. B. Osborne, Electric Power Board of Chattanooga, Chattanooga, Tenn.; R. D. Benson, Georgia Power Co., Atlanta; B. L. Pettie, Gulf States Utilities Co., Beaumont, Tex.; J. K. Newport, Idaho Power Co., Boise, Ida.; C. P. Tombras, Knoxville Electric Power & Water Board, Knoxville, Tenn.; R. E. Anderson, Minnesota Power & Light Co., Duluth, Minn.; M. H. Rouse, Nebraska Power Co., Omaha, Neb.; A. J. Flewes, Ohio Edison Co., Springfield, Ohio; R. W. Moore, Ohio Power Co., Portsmouth, Ohio.

Third prizes in the floor demonstration contest were awarded to: S. R. Wilson, Florida Power & Light Co., Miami, Fla.; J. K. Newport, Idaho Power Co., Boise, Ida.; H. W. Hobson and N. Wylie, Kansas Gas & Electric Co., Wichita, Kan.; R. H. Cornell, Jr., New York State Electric & Gas Corp., Binghamton, N. Y.; E. R. Richards, Niagara Lockport & Ontario Power Co., Medina, N. Y.; J. W. Bremmer, Northwestern Electric Co., Portland, Ore.; P. W. Moore, Ohio Power Co., Portsmouth, Ohio; D. N. Merrell, Ohio Power Co., Tiffin, Ohio; Kenton-Smith Furniture Store, Seattle; N. A. Zanzig, Wisconsin Michigan Power Co., Appleton, Wis.

Wisconsin Dealers Get Help In Drive On 'Direct Buying'

MILWAUKEE—Wisconsin Radio, Refrigeration & Appliance Association has gained the cooperation of four other Wisconsin retail trade associations to carry out a statewide renewal of the campaign against direct buying, with emphasis being placed upon the evil of purchasing for employees.

The four other cooperating associations are the Wisconsin Retail Furniture Dealers Association, the Wisconsin Retail Hardware Dealers Association, the Wisconsin Retail Jewelers Association, and the Wisconsin Pharmaceutical Association.

A letter over the joint signatures of the five associations is now being mailed to more than 1,500 of the leading industrial and commercial institutions throughout Wisconsin. A copy of the Wisconsin law which makes such practices illegal is enclosed with each letter, which reads as follows:

"Dear Sir:

"The several retail trade associations signing this communication join in expressing to the executive heads of Wisconsin's commercial and industrial institutions an appreciation of their fine cooperation in adhering to the purpose and spirit of Chapter 129 of the Wisconsin Laws of 1939.

"As you probably know, this is the law which restricts buying for employees of business and industrial institutions. Its purpose is to check so-called 'wholesale' buying abuses. With the thought that there might have been changes in the personnel of your purchasing department since this law became effective on July 1, 1939, we are enclosing herewith a mimeographed copy of it.

"We know of no case where it has been necessary to go into court to prosecute a violation of this law, but all information available indicates that it has accomplished a great good for the retail business structure of Wisconsin by restoring many thousands of dollars worth of business to legitimate retail channels.

"Many purchasing agents and plant executives have assured our various associations that they were glad to have this law passed, because it gave them a legal and legitimate excuse for discontinuing a practice which they knew was detrimental to the welfare of business.

"We thank Wisconsin business and industry for its fine cooperation on this program and take this opportunity of expressing the hope that it will be continued."

3,600 Women Attend Marling's School

TOPEKA, Kan.—Thirty six hundred women, the largest group made up exclusively of women ever to use the city's Municipal Auditorium, recently attended the three-day cooking school sponsored by Ed Marling, Westinghouse dealer. It is also claimed that this was the largest number of women ever to attend such a school conducted by a single dealer.

The school, conducted by Westinghouse' home economist, Charlotte Ferris, featured Westinghouse electric cooking and refrigeration. Stamina-building meals of meat, vegetables, and staple foods were discussed.

'Profile' For Appliances

MEREDITH, N. H.—Profile Electric Co. has opened a new electrical appliance store here, which handles General Electric appliances. Frank S. McHugh has charge of sales.

Dallas Refrigerator Sales In May Were 32% Ahead of '40

DALLAS, Tex.—May sales of household electric refrigerators in the territory of Dallas Power & Light Co. totaled 1,870 units, an increase of approximately 32% over sales reported for the same month last year, according to statistics compiled by the utility.

Sales for the first five months of the year reached 7,796 units, a gain of 30% over sales for the corresponding period of 1940.

Electric range sales totaled five units for May and 31 for the five-month period, compared with two for May and 13 for the first five months of 1940.

Estimated dollar volume of refrigerator sales for May and the five-month period was \$261,800 and \$1,091,440. Dollar volume of range sales for the same periods was \$650 and \$4,030.

A more complete tabulation of major appliance sales follows:

Appliance	May Unit Sales	5 Mos. Unit Sales
Household		
Refrigerators	1,870	7,796
Ranges	5	31
Water Heaters	2	7
Radios	2,598	10,911
Washers	445	1,834
Irons	25	119
Vacuum Cleaners	636	3,209
Dishwashers & Disposal Units	4	17
Air Conditioning Units	1	3
Air Conditioning Systems	3	3
Evaporative Coolers	2	6
Commercial		
Refrigerators & Display Cases	32	119
Water & Beverage Coolers	41	223
Low Temperature Cabinets	3	29
Air Conditioning Units	20	29
Air Conditioning Systems	10	12

BUSH LEADS the way to COOL PROFITS

For low ceiling market coolers where space is small and high capacity of refrigeration is required.



COMMERCIAL COOLING UNITS by Bush Mfg. Co.

ANSUL Chemical Company, an American business that has grown and progressed in the typical American way, is ready to serve your needs just as it is ready, if necessary, to serve the needs of the Republic. For twenty-five years Ansul has bent every energy to the production of the finest refrigerants possible. We now face our second quarter century resolved that Ansul quality and Ansul service shall not be exceeded.

ANSUL CHEMICAL COMPANY
MARINETTE WISCONSIN

Agents for Kinetic's "Freon-12"

AC-95

Ready to Serve
ANSUL
SULPHUR DIOXIDE
ICE-X
METHYL CHLORIDE

THERE IS AN ANSUL JOBBER NEAR YOU

NO HUM-M-M-M!
NO CHATTER!
NO SQUEE-E-K!

... We've designed the chatter out of SUPERIOR check valves... you can definitely bank on that!

... Opens and closes tightly below six ounces pressure... Minimum of pressure drop... All internal parts removable for soldering lines to valves, or for future inspection of parts, without removing valve from line.

TRULY-A SUPERIOR CHECK VALVE
Sold by leading jobbers everywhere... Write for Catalog

32
SUPERIOR VALVE & FITTINGS COMPANY
Export Department: 100 Varick St., New York, N. Y. • 1509 WEST LIBERTY AVE., PITTSBURGH, PA.

SQUARE D IN REFRIGERATION
DO IT ALL WITH SQUARE D

SWITCH
REGULATE
PROTECT

CALIBRATED SCALE FOR SQUARE D CLASS 9110 REGULATORS

*You will like the internal calibrated scales for range and differential available on Class 9110AP3 regulators. Free from accumulated dust and dirt found on externally calibrated devices, scales are readily accessible by lifting snap-on cover. No screws or nuts to remove. Pressure range 5 to 50 lbs., differential 5 to 30 lbs.

Remember, also, the positive contact wiping action for maximum efficiency at full rated loads—1 H.P. 110V, AC, 1½ H.P. 220V, AC, ½ H.P. 115-230V, DC.

JOBBERS' INQUIRIES INVITED
WRITE FOR BULLETIN

SQUARE D COMPANY • REGULATOR DIVISION • DETROIT

Demonstration Room That Has Everything



Another air conditioned appliance "closing room" serving the same purpose as that in the Ed Marling Electric Store (see story below) is proving its worth to the Herb Names, Inc. organization in Denver, Colo. This particular room, equipped with a Philco-York window unit, is also used as a demonstration room for automatic home laundry equipment. Privacy is obtained, yet other people in the store can see the demonstrations in the room shown here.

Appliance Store's Cooled 'Closing Room' Awakes Prospects' Interest In Cooling

TOPEKA, Kan.—Let your customers get a taste of the comfort made possible by packaged air conditioning, and they're much more apt to buy—at least that's the merchandising theory of the Ed Marling Electric Store, dealer here for Philco-York air conditioning units.

To prove to patrons what a difference air conditioning can make, the Marling store uses packaged air conditioning equipment to cool the "closing" rooms in which customers and salesmen discuss contract terms, while the remainder of the store is cooled only by electric fans.

So instead of being taken to a hot and stuffy office for discussion of final purchase terms, Marling customers are led into a pleasantly sound-proofed and air conditioned room where business can be transacted in privacy and comfort.

Under these circumstances, customers often comment on the pleasant atmosphere of the room and inquire about the terms on which air conditioning units can be purchased. Thus the opportunity to make a sale presents itself several times daily—and if the prospect is at all interested in mechanical air conditioning, this "silent selling" outweighs any possible kind of verbal sales talk.

The store's 10 salesmen always make every effort to determine the occupation of their regular appliance customers. Those who are doctors, lawyers, or professional men of any type, who might conceivably have a particular interest in packaged air conditioning equipment, are immediately shown the air conditioned room in an attempt to convert this interest into an actual purchase.

4 Corner Outlets Cool Operating Room And Keep Drafts Away From Patient

POUGHKEEPSIE, N. Y.—A problem that has baffled surgeons for years—that of air conditioning hospital operating rooms and yet prevent drafts on the patient—is reported to have been solved by a Carrier Corp. engineer by means of an installation in the St. Francis hospital here which effects a unique method of air distribution.

Designed by J. W. Van Riper specifically for this job, the system employs four standard outlet ducts, located in the corners of the hospital's two operating rooms, so arranged that air flows evenly down the walls, across the floor, and up around the operating table. This makes it possible, it is claimed, to keep surgeons and attendants comfortable and at top efficiency throughout the operation, yet does not allow any direct air motion on the patient.

The equipment, consisting of a standard Carrier Weathermaker which supplies 6½ tons of conditioned air, is located on the roof directly over the operating rooms in a penthouse especially built for the purpose. The system takes in 100% outdoor air at all times and there is no recirculation to the unit, all air being exhausted from the operating rooms.

The system includes a flexible control arrangement, making it possible for doctors to adjust temperatures within the room to desired conditions.

Some surgeons feel 80° F. and 55% humidity constitutes the best operating conditions, while others like the room in the lower 70's.

Because of explosion protection, humidities are not allowed to drop below 55%. A "low-limit" thermostat prevents air temperature entering the room from dropping below a pre-determined setting.

Dampers Give Restaurant Flexible System

PITTSBURGH—To air condition rooms only when they are being used, a flexible damper control system has been installed in the Trelon, Pittsburgh's newest restaurant cafe, by Electric Products Corp.

One York 15-ton unit, with three 5-hp. compressors and one 3-hp. fan motor, operates from a central point and distributes conditioned air throughout the cafe. A system of dampers admits or cuts off passage of conditioned air to any room.

Considerable savings result in using the step starting method, according to F. A. Suter of Electric Products. By that method, the compressors start one after another until maximum efficiency is reached. To maintain the temperature differential from then on, only one 5-hp. compressor goes across the line.

Saturation of Air Cooling Market By Divisions Given In Survey

SYRACUSE, N. Y.—America's skyscrapers—the office buildings, apartment houses, hotels, and hospitals 10 stories or more in height—represent one of the greatest immediate commercial markets for air conditioning, believes Dr. Willis H. Carrier, chairman of the board of Carrier Corp., basing his statement on a recent market survey.

"The latest figures available show that only 5.46% of the nation's office buildings are air conditioned," he pointed out. "The apartment house picture is even more startling, with only 0.3% air conditioned. According to a recent survey in the hotel field, 13.9% have been completely or partially air conditioned."

"Air conditioning undoubtedly will be one of the big developments of the post-war era," Dr. Carrier predicted. "However, I look for an even more immediate market in the multitude of office buildings, apartment houses, hotels, and hospitals throughout the country."

There are 4,065 tall structures 10 or more stories high in New York City alone, Dr. Carrier states. There are 497 office buildings in New York City 10 stories and over; 138 hotels; 2,456 elevator apartments, 159 apartment hotels; 212 cooperative apartment houses; 16 large motion picture houses with buildings attached; and 199 public buildings, hospitals, museums, etc.

The most recent survey showed that air conditioning had been installed in 3,010 industrial plants, or

1.78% of the nation's 169,111 factories, according to Dr. Carrier.

In the industrial market, tobacco factories ranked first as the most completely air conditioned industry. Yet only 25.3% of the nation's tobacco plants are air conditioned.

Candy factories ranked second—a survey of the nation's candy plants conducted last summer, revealed that 14.4% of the total had air conditioning in one form or another. Much of it had been installed more than 10 years ago, however. The candy industry, because of its chocolate-dipping problem, was one of the first to recognize the importance of air conditioning.

In third place in the industrial field are fur storage plants, with 6.5%.

In only a few other industries has even 1% of the saturation point been reached up to now.

In commercial markets, 40,247 installations had been made, according to Dr. Carrier's figures. This represented a total of only 2.8% of the saturation point in that field.

In the commercial market, theaters outrank all other markets by a wide margin.

Department stores rank second, although only one out of every five department stores has been air conditioned.

Drug stores report 1.58% air conditioned; restaurants, 2.3%; and banks 2.89%.

Alabama Power Requests Consumers To Again Conserve Voluntarily

BIRMINGHAM, Ala.—After an experimental period of two weeks in allowing unlimited use of electric power, Alabama Power Co. has asked its industrial and commercial customers to return to a program of voluntary power curtailment effective July 21.

Although no schedule of curtailment was issued for residential users, it was expected that they might be asked shortly to return to a program of similar conservation, in the interests of national defense requirements and the protection of service to all customers.

Users of air conditioning equipment were asked to operate their systems so as to provide 5° lower temperatures inside than outside, with a base setting of 83° F. and relative humidity of 65%.

Industrial users were requested to resume night and week-end operations to take care of off-peak loads, and commercial customers, including stores and theaters, were asked to dispense with exterior lights, except on Saturday and Sunday nights and from 7 to 8:30 p.m. on other nights. Reduction of 50% in street lighting also was sought.

In restoring the rationing schedule, the company announced that recent rainfall, although helpful, has been insufficient to raise reservoir levels to the point needed for essential service during the rest of the year, particularly in view of the larger needs of national defense industries.

**I KEEP MY CUSTOMERS
AND SELL NEW PROSPECTS
WITH Hydraulic-Action
CONTROLS!**

HERE'S HOW YOU CAN DO THE SAME

TYPE 1609
Hydraulic-Action Temperature Control for various commercial applications. Range - 20° to +50° Fahrenheit. Adjustable differential 3° to 25°.

White-Rodgers easily set cut-in and cut-out indicators on dials uniformly-calibrated in degrees Fahrenheit, combined with the exclusive principle of Hydraulic-Action, provide the only means of temperature control that assures positive accuracy regardless of:

- **AMBIENT TEMPERATURE CHANGES** — No temperature drift in Hydraulic-Action Controls because of the minute portion of liquid in the capillary and diaphragm as compared to that in the bulb.
- **POSITION OF BULB** — Hydraulic-Action Controls operate accurately with bulb located in any position in relation to the switch mechanism.
- **ALTITUDE** — Temperature settings of Hydraulic-Action Controls are not affected by changes in altitude, due to the non-compressibility of the "solid-liquid" charge.

Sell your customers on these exclusive White-Rodgers features plus the added protection and quicker service made possible by White-Rodgers easily adjusted cut-in and cut-out indicators, higher electrical ratings and trouble-free switch operation. You'll have more time to spend on new business, too, because the same features that assure customers better performance will make installations easier for you.

Write today, for your copy of the new White-Rodgers Refrigeration Catalog, Unit R-371.

WHITE-RODGERS ELECTRIC CO.
1211g CASS AVE. ST. LOUIS, MO.
Controls for Refrigeration • Heating • Air-Conditioning

Air Conditioning & REFRIGERATION NEWS

Trade Mark registered U. S. Patent Office;
Established 1926 and registered as
Electric Refrigeration News

F. M. COCKRELL, Founder

Published Every Wednesday by
BUSINESS NEWS PUBLISHING CO.
5229 Cass Ave., Detroit, Mich.
Telephone Columbia 4242

Subscription Rates
U. S. and Possessions, Canada, and all countries
in the Pan-American Postal Union: \$4.00 per year;
2 years for \$7.00. All other foreign countries: \$6.00
per year. Single copy price, 20 cents. Ten or
more copies, 15 cents each; 50 or more copies,
10 cents each. Send remittance with order.

GEORGE F. TAUBENECK,
Editor and Publisher

PHIL B. REDEKER, Managing Editor
THEODORE T. QUINN, Assistant Editor
ROBERT P. NIXON, Statistical Editor
Editorial Staff: JIM MCCALLUM,
C. D. MERICLE, and JACK SWEET

JOHN R. ADAMS, Business Manager
JAMES B. SMITH, Advertising Manager
ED HENDERSON, Circulation Manager
M. HELEN COCKRELL, Credit Manager

On leave of absence for military
service: RICHARD J. NEUMANN

Member, Associated Business Papers
Member, Audit Bureau of Circulations

VOLUME 33, No. 12, SERIAL No. 644
JULY 23, 1941

Copyright, 1941, Business News Publishing Co.

Good Dealers Will Survive

LES MOFFATT, astute editor of "Electrical Merchandising," is a man whose views this department has learned to respect. Les has been around this business long enough to know a trend when he sees one, and to evaluate any given business practice in terms of the results it may have years later. He is keenly perceptive, and he has the long view.

Hence, when Les talks about "Priorities for Dealers" in the current issue of his publication, we prick up our ears.

THE SILVER LINING IN WAR CLOUDS

His editorial takes up "the fix we're in" just about where our editorial of June 25 (entitled "What's Going to Happen to Appliance Dealers") leaves off. He looks ahead to the end of the war, when "the appliance business will continue its great growth."

Writes Mr. Moffatt:

"... the coming reduction in volume should be offset by an improved character of distribution and a greater emphasis on product excellence and use value rather than on price."

He sees the situation as shaping up for the advantage of the "retailer with an ethical price policy, sound and fair competitive sales methods and one whose activity is creative in winning markets for new products and extending the market on present lines."

WHAT THE RETAILER NEEDS TO DO

"Now," he continues, "in a seller's market the manufacturer can without loss and with much prestige to himself eradicate the whole crowd of chiselers. . . . Like the manufacturer, the retailer needs to . . . establish a policy of specialization, of a year-round sales effort, the avoidance of specials, and major effort on extra quality, special feature merchandise in the higher brackets of sale."

Gentlemen, that about sums it up. Our editorial pointed out that there

would likely be a great contraction of the number of appliance dealers as manufacturers found it increasingly difficult to get materials, and suggested some of the criteria by which the survivors would likely be selected.

Mr. Moffatt suggests that the "emergency" will work out to the benefit of creative specialty selling dealers, that the non-specialists will lose out, and that in the end the appliance industry will find itself with a clean, hand-picked distribution system.

On a foundation of creative specialists, as Mr. Moffatt predicts, the industry should be able to build a stronger business structure than it now possesses. After the war, the appliance business should be off to a running start.

STRENUOUS EFFORTS WILL PAY DIVIDENDS

This "emergency" period ahead of us will entail sacrifices, especially for distributors and dealers. But the "fittest" who survive should be in a wonderful position when hostilities end. Holding a key distributive position at that time will be well worth the hard thinking and strenuous effort which lie ahead.

As a matter of fact, some sales executives believe it won't be necessary to do much weeding out of their dealer organizations. Thousands of fringe dealers will drop out when they no longer feel that they can ride on the coattails of a "good thing."

Also, the merchants who sell "demand goods" over the counter will simply turn their attention to articles which are more plentiful, and on which they can continue to exercise their talents as sharp buyers.

The "softies," the non-creative, will fall by the wayside.

LETTERS

MISPLACED THE ISSUE, SEND US ANOTHER

The B. F. Goodrich Co.
Akron, Ohio

Editor:

You are probably familiar with the fact that we have been a subscriber of your magazine for some time, and needless to say, we like it.

Your recent issue of July 9 ran an item concerning a "Table on Standard Fractional Horsepower V-Belts" put out by our company. Unfortunately, this issue has been misplaced, so that we are unable to comply with a request from an account in Chicago relative to this item.

If it is not against your policy we should like very much to have an additional copy of the July 9 issue for reference purposes.

G. J. FISCHER,
Belting Sales Department

HOW WILL NEW TAX BE LEVIED?

Clinard Electric Co.
245 N. Main St.
Winston-Salem, N. C.

Editor:

We have noted very carefully on the front page of your July 9 issue, the third column, the article about the 10% excise tax that has been tentatively agreed upon by the House Ways and Means Committee on electric refrigerators, and as we understood it, on radios and electric ranges, also.

We would like for you to advise us if this will be levied on the manufacturer, distributor, or dealer. Also if when the Act is passed by Congress will it apply to dealers' stocks on hand?

As one of your readers, we shall appreciate your supplying us with this information in the enclosed self-addressed envelope.

B. C. CLINARD, President

Answer: The article about a possible 10%

They'll Do It Every Time

By Jimmie Hatlo



THERE'S ABOUT ONE OF
THESE AMATEUR ELECTRICIANS
TO EVERY BLOCK

THANK TO ROSE GREEN ABRAHAMS
ELMHURST, ILL., N.Y.

excise tax on refrigerators refers to a tentative agreement in the House of Representatives and nothing definite can be said until the tax schedule has actually been passed by Congress and approved by the President.

The tax, if levied, would probably be a manufacturers' tax, as is now the case with the 5½% tax which is already on refrigerators. Inasmuch as it is a manufacturers' tax, it would not cover stocks in the hands of distributors and dealers.

'RECENT EDITORIALS ARE TALK OF INDUSTRY'

Lofgren's
1631 Fifth Ave.
Moline, Ill.

Editor:

Your recent editorials in AIR CONDITIONING & REFRIGERATION NEWS are the talk of the industry. The one you wrote on the conditions in Washington was a jewel and I wish you would give us more of them.

What can the dealers expect in the next three to six months? If you can tell us that you are undoubtedly a seventh son of the seventh son.

D. S. STOPHLET, Prop.

'SO INTERESTING THAT WE WANT SOME MORE'

Anglo-Espanola de Electricidad S.A.
Av. Jose Antonio Primo de Rivera, 525
Barcelona, Spain

Editor:

We have just received your Refrigeration & Air Conditioning Directory, American Edition 1941 D-11, and are very much obliged for your kind attention.

We have found it so interesting that we are asking you to take our order for the following:

Master Service Manuals: No. 1—In Spanish and in English. Nos. 2, 3, and 4, in English.

Master Service Manuals: Nos. C-1, C-2, and C-3, in English.

ACME Manuals: Nos. A-1 to A-7 and B-1, in English.

Manuals SF-1, SF-2, LS-1, E-1, and S-1, one of each.

If Manual HS-1 is not included in these manuals, please send us also a specimen in Spanish and another in English.

Our Mr. R. St. Noble has instructed the Royal Bank, New York, to open a credit in your favor for \$25. In case our order be over this amount we will refund you as soon as we know the exact amount.

Please make the shipment of these manuals in different dates and by first class mail.

DIRECTOR GERENTE

LIEUT. COOK DIDN'T EXACTLY 'JOIN' THE ARMY

War Department
Office of the Quartermaster General
Washington, D. C.

Editor:

Probably you remember talking to the writer for a few minutes at the A.S.R.E. convention in Cincinnati relative to my being called to active duty in the Quartermaster General's Office in Washington, D. C.

Please refer to the July 2, 1941 issue of the AIR CONDITIONING & REFRIGERATION NEWS on the lower left-hand corner of page 9; you have in bold type: "R. W. Cook Joins Army."

This was very amusing to me due to the fact that I had an indefinite deferment granted, which, as you know, means that a reserve officer will not be called until his

duties are absolutely necessary to the government. So, therefore, I believe the word "Joins" is a little misused in this case.

LIEUT. R. W. COOK,
Assistant Executive Officer

SUBSCRIPTIONS COME IN FROM AUSTRALIA

F. C. Lovelock, Pty. Ltd.
16-20 Young St.
Sydney, Australia

Circulation Manager:

Herewith Bank Draft covering the following renewal subscriptions to AIR CONDITIONING & REFRIGERATION NEWS:

McGregor, Wiggin & Co., 4 Daniel St., Chippendale, Sydney, N.S.W.

R. Werner & Co., Pty., Ltd., 602 Little Collins St., Melbourne, Victoria, Australia.

R. Werner & Co., Pty., Ltd., 54 Burnley St., Richmond, Melbourne, Victoria, Australia.

Your official receipt in due course will be appreciated.

G. MOODY

PLEASE SEND MANUAL

Box No. 239, Lynchburg, Ohio
June 23, 1941

Sirs:

Please find inclosed a money-order for \$1 for one Household Service Manual No. 1. Would you kindly send the complete list of your Refrigeration Library books?

The AIR CONDITIONING & REFRIGERATION NEWS is just grand. Keep up the good work.

You may expect more orders from me in the near future.

GEORGE HALL

'NEWS' TO MEXICO

Comercial Del Occidente, S.A.
Lopez Cotilla 424,
Guadalajara, Jal, Mexico

Publisher:

Please find enclosed our check for Dis. 4.00 in payment for one year's subscription to the AIR CONDITIONING & REFRIGERATION NEWS to start immediately also send us a copy of your Spanish edition of Refrigeration and Air Conditioning Directory.

JOSE INIGUEZ, GERENTE.

'MANUALS VERY HELPFUL'

U.S.S. Sumner
c/P.M.
New York, N. Y.

Sirs:

I have enjoyed your paper very much in the past year, especially the articles for service men. Received the six Manuals ordered and they are indeed very helpful.

Enclosed please find money order to renew my subscription.

J. E. BAKER

'FORWARD NEW BOOK'

Ross Roy, Inc.
2751 E. Jefferson Ave.
Detroit, Mich.

Sirs:

Will you please forward immediately your new book entitled "Appliance Advertising & Merchandising" written by R. E. Mangan.

We enclose our check for \$2.00 to cover cost of book. We are very anxious to receive this very interesting book.

H. MURRAY

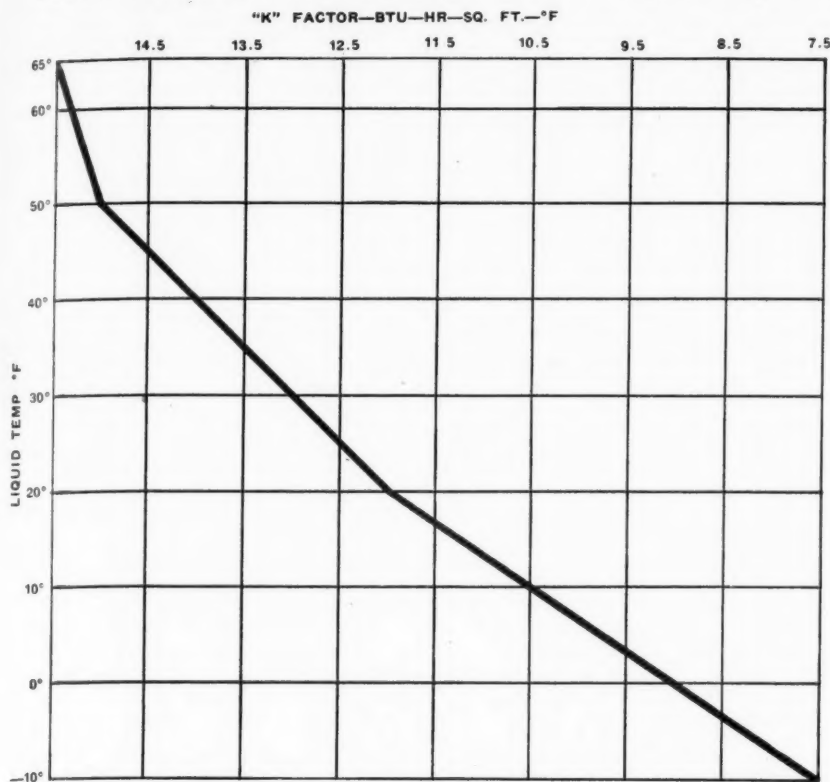
The Service Man's Notebook

By Henry Kronke

Mr. Kronke, a service engineer in New York City, compiles useful, handy data for use in his work as he finds a repeated need for certain kinds of information. The editors suggest that service and installation engineer readers of the NEWS cut these tables out for their own notebooks.

FACTS ON BEER COOLING JOBS (CONT.)

Heat Transfer To Bare Pipe Coils In Still Liquid



Where coils of $\frac{3}{8}$ ", $\frac{1}{2}$ ", $\frac{5}{8}$ ", and $\frac{3}{4}$ " o.d. dimensions are used, this graph may be used to advantage in conjunction with a table titled "Heat Transfer per Linear Foot of Copper Tube Expansion Coil in Still Liquid." Where coils of other outside dimensions are used, the exact length of pipe required to give 1 square foot outside surface may be found by inspecting one of the following tables: "Specifications of Pipe," "Specifications of Soft Copper Tube," "Specifications of Block Tin Tube," or "Specifications of Hard Drawn Copper Tube." (Tables to appear in later instalments of "The Service Man's Notebook.")

The refrigeration necessary at the dispenser is the reduction in temperature of the beer from that of the storage room to the serving temperature, plus the heat leak into the lines and bar cooler. The beer load only at the dispenser is:

Gal. \times 8.33 \times 0.9 \times °F. = B.t.u., where 8.33 is the pounds per gallon and 0.9 the specific heat of beer.

The heat leak into the bar cooler is calculated by using the table given on page 11 of the March 19, 1941 issue of AIR CONDITIONING & REFRIGERATION NEWS, which gives the heat leak only through corkboard insulation. For the heat leak into the beer lines between the storage room and the bar cooler a table on page 10 of the March 26, 1941 issue, titled "Heat Transmission Through Cork Pipe Covering" is used.

The bunched block tin lines are considered as one pipe and their total diameter is used to get the pipe size. In the last mentioned table the actual thickness of the insulation is not given, since this type of insulation is bought as "Ice water thickness," "Brine thickness," or "Special thickness." Because hairfelt and other blanket types of insulation are preferred for insulating beer lines, the average thickness of cork insulation of ice water thickness is given here:

up to $\frac{3}{8}$ " pipe, the insulation is 1.3" 1" to 2" pipe, the insulation is 1.5" 2 $\frac{1}{2}$ " to 4" pipe, the insulation is 1.6"

From another table in the March 26 issue giving the "Relative Value of Insulating Materials" the heat leak as found from the table for cork can then be corrected. For hairfelt the correction factor is 0.883, which means that it is better than cork. However, every effort should be made to install it in such a way that it will remain dry.

Assuming a water bath temperature of 35° F. and a refrigerant coil temperature of 28° F., we find by

Heat Transfer Table

"K" Factor	Heat Transfer per Linear Foot of Copper Tube Expansion Coil in Still Liquid. B.t.u./Hr./°F./Ft. Tube			
	Tube Size			
	$\frac{3}{8}$ "	$\frac{1}{2}$ "	$\frac{5}{8}$ "	$\frac{3}{4}$ "
16.0	1.56	2.10	2.62	3.13
15.7	1.53	2.06	2.57	3.07
15.5	1.51	2.04	2.54	3.03
15.2	1.48	2.00	2.49	2.98
15.0	1.46	1.97	2.46	2.94
14.5	1.41	1.90	2.37	2.84
14.0	1.36	1.84	2.29	2.74
13.5	1.31	1.77	2.21	2.64
13.0	1.27	1.70	2.13	2.54
12.5	1.22	1.64	2.04	2.44
12.0	1.17	1.57	1.97	2.34
11.2	1.09	1.47	1.83	2.19
10.5	1.02	1.38	1.72	2.05
9.8	0.96	1.29	1.60	1.92
9.0	0.88	1.18	1.47	1.76
8.2	0.78	1.07	1.34	1.60
7.5	0.73	0.97	1.23	1.46
7.0	0.68	0.91	1.14	1.37

The "K" factor depends on the desired liquid temperature and is found by inspecting a graph titled "Heat Transfer to Bare Pipe Coils in Still Liquid."

inspecting the graph titled "Heat Transfer to Bare Pipe Coils in Still Liquid" that for that particular bath temperature we can use a "K" factor of 13.5.

This is, of course, per square foot of coil surface. In another table, to be published soon under the title "Heat Transfer per Linear Foot of Copper Tube Expansion Coil in Still Liquid," this factor has been worked out per foot length of tube. For a "K" factor of 13.5 we find there a capacity for $\frac{1}{2}$ tube of 1.77 B.t.u. per hour per °F. T.D. between bath and coil. Our assumed T.D. is 7° F., so $7 \times 1.77 = 12.4$ B.t.u. per hour per foot of $\frac{1}{2}$ inch copper tube coil.

The total load at the dispenser divided by 12.4 will give us the length of our coil in feet. When building our own refrigeration coils, we must guard against too great a pressure loss through the coil by

making the coil too long or of too small a tube. Maximum loads for single continuous coils will be published later in this series.

To select the proper length of our beer coils we first find out the load on this coil, which will only be the cooling of the beer from the temperature it enters the bar cooler to the temperature it is to be served.

In a table titled "Block Tin Tube Specifications" to be published later we will be able to find all necessary information about such tubing. For the present we will assume that we are using $\frac{3}{8}$ inch I.D., $\frac{1}{2}$ inch O.D. tubing, having the same outside area as $\frac{1}{2}$ inch copper tubing.

Our final beer temperature is to be 40° F. and from the graph previously consulted we find that we may use a "K" factor of 14, and the table giving the heat transfer for various O.D. tube sizes boils this down to 1.84 per foot length. The T.D. between bath and beer is 50° F., therefore $5 \times 1.84 = 9.2$ B.t.u./hr. will be the cooling done per foot of beer coil.

The nearer to the serving temperature the beer is kept in the storage room, the less will be the load on the bar cooler, no matter how fast the beer is drawn. In fact, beer kept at serving temperature in the storage box will be served better if drawn fast, because no matter how cold the beer is kept in the storage box, if the lines are permitted to warm up, the beer will be foamy.

Some common complaints about draft beer and the causes:

Foamy Beer:

High exit temperature.
Low keg pressure.
Warm beer lines.
Over carbonation.
Bad faucets, restriction.

Flat Beer:

Dirty coils, oily glasses.
Fans blowing on glasses.
No CO₂ or too cold.

Cloudy Beer:

Dirty coils, too cold.

Bad Taste:

Dirty coils, bad air.
Bad hose, renew monthly.

Coarse Foam:

Cheap beer.
No CO₂.
Beer too cold.

Plan Evolved For Greater Production Of Domestic Copper

WASHINGTON, D. C.—High-cost copper mines either now operating at a loss or out of operation that are capable of turning out an estimated 100,000 to 150,000 tons of copper annually would be put on a profitable basis under a subsidy plan now understood to be under consideration by defense officials.

It is believed such mines, which cannot be operated profitably at the price of 12 cents a pound held since last fall, could be run on a sound basis if owners could obtain 14 cents. Under the proposed plan, a subsidy of two cents would be paid the producers by the government, thus holding the general price at 12 cents.

As the tentative plan stands, mines now operating would have to prove they were doing so at a loss to be eligible for the subsidy. The majority of these high-cost mines are said to have been out of operation for several years and from six months to a year would be required to get them back into production.

Something above 12 cents a pound is being considered by the Office of Price Administration and Civilian Supply for all current production by these high-cost producers and still another special price for any increment over present production in order to stimulate increased output, Administrator Leon Henderson said in answering an appeal for clarification of the situation from B. D. Noetzel, managing director of Isle Royale Copper Co.

Mr. Noetzel had protested to Mr. Henderson that "the suggestion (appearing in a leading eastern financial journal) that the higher copper price apply only to the increased production is utterly pernicious so far as the Michigan producers are concerned . . . we believe we have made it clear and unequivocal that it is vitally necessary for us to obtain a higher than 12-cent price for copper."

Policy Set For U. S. Housing Refrigerators

WASHINGTON, D. C.—Establishment of policies on installation of refrigerators and other movable equipment in Federal Works Agency defense housing under the amended Lanham Act authorization has been announced by Federal Works Administrator John M. Carmody.

Mr. Carmody said that since amendments limit the installation of movable equipment in these new homes to those cases "where the Federal Works deems such installation to be in the public interest," it will be the policy that movable equipment, such as ranges and refrigerators, shall be recommended by the constructing agency only where it is deemed necessary because of local conditions.

Constructing agencies must submit detailed justification of such recommendations to the administrator.



PARTNERS

• The refrigeration parts supply depot that cooperates with you in rendering immediate, satisfactory, personal service is identified by the above emblem.

Consider the N.R.S.J.A. jobber as your stock room.

Be certain of service and dependability — your N. R. S. J. A. jobber is your partner in business.

NATIONAL REFRIGERATION SUPPLY JOBBERS ASSOCIATION

Thousands of WAGNER Motors

ARE NOW GIVING DEPENDABLE SERVICE ON REFRIGERATING AND AIR CONDITIONING EQUIPMENT IN DEFENSE INDUSTRIES, ARMY CANTONMENTS, NAVAL STATIONS, ON SHIPS, ETC.

FOR QUICK DELIVERIES ON MOTORS FOR DEFENSE PRODUCTION SPECIFY WAGNER

Type M, Shaded-Pole Fan Motors (1/125 to 1/30-hp)—ideally suited for fan and blower drives where the fan or blower is mounted directly on the motor shaft.

Type RP, Squirrel-Cage (1/6 to 400-hp)—because of simple construction are low-priced, easily installed, and exceptionally sturdy and dependable.

Type RA, Repulsion-Start-Induction (1/8 to 15-hp)—the ideal motor for heavy duty applications such as compressors, pumps, stokers, etc.

Type RK, Capacitor-Start Induction-Run (1/8 to 3/4-hp).

Send for Bulletins MU-177 & MU-182.

Wagner Electric Corporation

6400 Plymouth Avenue, Saint Louis, Mo., U.S.A.

MOTORS • TRANSFORMERS • FANS • BRAKES

25 SALES AND SERVICE BRANCHES Conveniently Located Throughout the Country.

Trained Sales-Engineers are always ready to assist you in selecting motors to meet your particular requirements.

THE RECORD PROVES IT

Artic

REG. U.S. PAT. OFF.

THERMALLY RIGHT for EFFICIENT REFRIGERATION

The Preferred METHYL CHLORIDE for Service Work

For information about nearest source of supply, write to: **THE R. & H. CHEMICALS DEPARTMENT • E. I. DU PONT DE NEMOURS & Co. (INC.)** Wilmington, Del.

OF NATIONAL AMMONIA DIVISION Frankford, P. O. Philadelphia, Pa.

CLASSIFIED ADVERTISING

POSITIONS AVAILABLE

PERMANENT position available for two A-1 service men. Must be qualified by training and experience to install and service CARRIER Commercial Refrigeration and Air Conditioning equipment. Counter Freezers, Beverage Coolers, and Market fixtures. Top salary and good working conditions. Give full details and reference in first letter. Apply MARTIN ENGINEERING CO., 2124-26 Ashland Ave., Toledo, Ohio.

POSITIONS WANTED

REFRIGERATION Service Engineer desires position with reliable company. 41 years of age. 12 years experience in Soda Fountains, Beverage Cooling, Meat cases, domestic and special equipment. Can figure and sell all commercial equipment. Can stand any investigation as to ability and character. Box No. 1342, Air Conditioning & Refrigeration News.

DISTRICT Representative of a large, well-known electrical manufacturer now on leave-of-absence because of shortage of raw materials. Long and successful record contacting distributors and dealers on refrigeration, heating and air conditioning, and electrical equipment. The problems involved in Merchandising Engineering and Service, from the standpoint of the manufacturer and distributor are thoroughly understood. Available on week's notice for any location. Box No. 1343, Air Conditioning & Refrigeration News.

SERVICE-INSTALLATION MAN, 19 years experience in commercial refrigeration field. Locker plant, cold storage, market, doing plant and Marine systems—ammonia and low pressure refrigerants. Capable take charge of complete installations. Reliable, not afraid of hard work, married, age 37. References. Available Aug. 15. Box No. 1344, Air Conditioning & Refrigeration News.

FRANCHISES AVAILABLE

A PROFITABLE set-up available to the right man to sell Warren Quality Refrigerators. We manufacture a complete commercial line with exclusive features that appeal to the trade. For complete details write WARREN REFRIGERATORS, INC., 420 Lexington Avenue, New York City.

DIRECT FACTORY connection. Sell Refrigerator Display Cases, Walk-In Coolers, Reach-In Refrigerators, Refrigerating Units, to Meat Markets, Grocers, Taverns, etc. Financing arrangements to help sell. Write for full information or see EHRICH REFRIGERATOR MFG. CO., Dept. A, St. Joseph, Mo.

SELL CHIL-KWIK products. Everything in direct draw beer dispensing systems, walk-in pre-coolers, beverage coolers, refrigerated faucets. A CHIL-KWIK product for every beer dispensing application. Smart distributors everywhere are cashing in on CHIL-KWIK's phenomenal acceptance. Write for catalogue today. CHIL-KWIK CORP., Dept. N, Milwaukee, Wis.

GENERAL Refrigerator Company is announcing the new 1941 line. General Display Cases, Reach-In Cabinets, Walk-In Coolers and Beer Pre-Coolers. For almost half a century we are manufacturers of the highest quality commercial refrigerators. Compare with other higher priced lines. Write in for prices and discounts on the biggest money making line in the country. GENERAL REFRIGERATOR CO., 5th & Bainbridge Sts., Philadelphia, Pa.

EQUIPMENT WANTED

BUYERS of Surplus Stocks and Inventories of Commercial and Domestic Refrigeration and Air Conditioning Equipment. New, Rebuilt, Used. Condensing Units, Compressors, all sizes Motors, Controls, Valves, Heat Transfer Equipment, and all types of Parts. Please send full details and particulars. R & R REFRIGERATION & EQUIPMENT CO., 508 Morris Ave., Bronx, N. Y.

EQUIPMENT FOR SALE

5 x 5 8-ton York Ice Machine complete unit 20 h.p. G. E. motor, valves, etc., run less than 200 days, like new, in A-1 shape. Unit condenser and motor on one base. Will sell very reasonably. Was manufactured by York Ice Machinery Corporation. LUTHER CREAMY, Catawissa, Pennsylvania.

SURPLUS STOCK: Brand new Westinghouse low-sides, complete with coils, valves, fans, manual controls, etc. One to two ton capacity. AC Models \$32.50 each; DC models easily converted to AC \$18.50 each. 1/2" Mueller strainers with 1/2" to 3/4" flare nuts 60¢ each in lots of 5. Complete stock "as is" or rebuilt commercial units. Three fan Frigidaire blower suitable for use on 3 HP condensing unit, ideal for beer cooler. "As is" and rebuilt refrigerators. Write for prices. ASSOCIATED REFRIGERATOR PLANT, INC., 3028 W. Hunting Park Ave., Philadelphia, Pa.

QUANTITY of "as is" commercial compressors mostly Frigidaire less motors which we have secured through replacement sales to our customers. No reasonable bid refused. S. J. O'BRIEN SALES CORP., 124 West 124th Street, New York City.

DECALCOMANIA NAMEPLATE Transfers on every installation and repair job bring repeat business by keeping your name before your customers. Your copy printed on an attractive GOLD-RED-BLACK NAMEPLATE. Now in small lots—250 or more at reasonable prices. For samples, prices, etc., write FITSCO, 49 Ranney, Springfield, Mass.

REPAIR SERVICE

CONTROL REPAIR Service. Domestic controls reconditioned equal to new at a small cost. All work guaranteed for one year. Prices upon request. UNITED SPEEDOMETER REPAIR CO., INC., 342 West 70th Street, New York City.

Uses of REFRIGERATING AND AIR CONDITIONING MACHINERY With Regard To the Effect on THE NATIONAL DEFENSE PROGRAM AND THE NATIONAL ECONOMY

(Compiled by Air Conditioning & Refrigerating Machinery Association)

1. BUILDING MATERIALS AND SUPPLIES (Manufacturing processes* for Cement, Ceramics, Glass, Lumber, etc.)
2. CHEMICALS (Manufacturing processes*)
3. COMMUNICATIONS Radio tubes and apparatus (manufacturing processes*) Telephone apparatus (manufacturing processes*) Telegraph apparatus (manufacturing processes*) Telephone exchanges (atmospheric control) Broadcasting studios (atmospheric control) Printing and publishing (processing*)
4. DRUGS AND PHARMACEUTICALS (Manufacturing processes*)
5. DRY ICE (Manufacturing processes*)
6. ELECTRIC POWER (Manufacturing processes* for Electric Motors and other electrical equipment)
7. ELECTRICAL APPLIANCES (Manufacturing processes*)
8. EXPLOSIVES (Manufacturing processes*)
9. FLOWERS (Growing and sale of)
10. FURS (Storage)
11. FOODSTUFFS
 - (a) Processing* of Foodstuffs: Meat and Meat Products Packing or Processing* Dairy Products Processing* Vegetable and Fruit Processing* Flour Processing* Baking Processes* Cereals Processing* Ice Cream (production and distribution) Sugar Beverages Candy Processing* Miscellaneous Foods Processing* Quick Freezing
 - (b) Transportation of Foodstuffs: Railroad Car Refrigeration Truck Refrigeration Ocean and Inland Ships Refrigeration Precooling
- (c) Distribution of Foodstuffs: Preservation, Storage, and Sanitation Equipment for:
 1. Storage Warehouses
 2. Wholesale Depots
 3. Retail Stores
 4. Eating Places
 5. Locker Storage
12. HOUSING
 - Residential:
 - (a) Homes
 - (b) Apartments
 - Commercial:
 - (a) Stores
 - (b) Offices
 - (c) Hotels
 - (d) Banks
 - (e) Unclassified
 - Industrial:
 - (a) Factories
 - (b) Laboratories
 - (c) Unclassified
 - Public:
 - (a) Auditoriums
 - (b) Public buildings
 - (c) Unclassified
 - Military:
 - (a) Cantonments
 - (b) Unclassified
 - Institutions:
 - (a) Educational
 - (b) Hospitals
 - (c) Unclassified
13. HOSPITALS AND INSTITUTIONS Food and Medical Preservation Control of Operating Room Atmospheric Conditions Control of Convalescing Space Atmospheric Conditions
14. ICE Production Storage
15. LABORATORIES
16. LEATHER AND LEATHER PRODUCTS
17. MALT BEVERAGES (Beer, ale, etc.)
18. MACHINES AND MACHINE TOOLS (Production of) Abrasives Processing* Precision and Tolerances of Parts Control
19. METALS
 - Copper Mining
 - Zinc Mining
 - Gold Mining
 - Other Minerals Mining
 - Iron and Steel Production (blast furnaces, etc.)
 - Other Metals Production
20. METAL WORKING—FERROUS
21. METAL WORKING—NON-FERROUS
22. MORTUARIES
23. MUNITIONS (Manufacturing processes*)
24. OPTICAL APPARATUS (Processing* of lenses, etc.)
25. PAPER AND PAPER PRODUCTS (Manufacturing processes*)
26. PETROLEUM PRODUCTS (Processing*)
27. PHOTOGRAPHIC MATERIALS (Manufacturing processing*) Film Cameras Other Apparatus
28. PRECISION INSTRUMENTS
29. RECREATION
 - Theaters
 - Soda Fountains
 - Bars
 - Clubs
 - Skating Rinks
 - Unclassified
30. RUBBER AND RUBBER PRODUCTS (Manufacturing processes*)
31. SYNTHETIC PRODUCTS
 - Plastics
 - Synthetic Rubber
 - Unclassified
32. TEXTILES AND CLOTHING (Manufacturing processes*)
 - (a) Non-synthetic:
 - Yarn Spinning
 - Fabric Weaving
 - Garment Making
 - Hosiery Making
 - Parachute Making
 - Balloon Making
 - Other Fabric Production
 - (b) Synthetic:
 - Base Materials Manufacture
 - Yarn Spinning
 - Fabric Weaving
 - Garment Making
 - Parachute Making
33. TOBACCO PRODUCTS (Manufacturing processes*)
34. TRANSPORTATION (Manufacturing processes*)
 - Motors and Engines Production
 - Airplane Production
 - Automobile Production
 - Truck Production
 - Tank Production
 - Railroad Car Production
 - Ships and Boats Production

*Processing denotes operations for which equipment is essential for purposes of controlling chemical, biological, or other reactions of given hygroscopic and non-hygroscopic substances, materials, or products. Whenever improved efficiency, health, and comfort of workers also results, this is purely an incidental additional advantage.

Government To Hold New Supply of Lead

WASHINGTON—E. R. Stettinius, Jr., Director of Priorities, on July 21 said that industrial consumers of lead should try to place orders with their regular suppliers before making any application to the OPM for allocations of lead held by the Metals Reserve Co. of the Reconstruction Finance Corp.

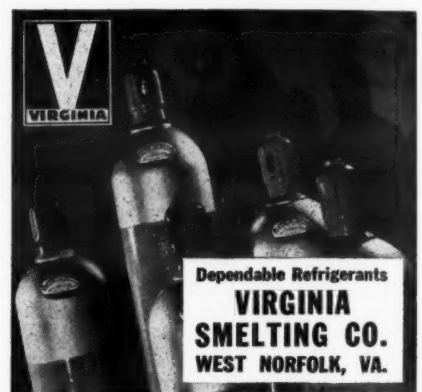
Jesse Jones, Administrator of the Federal Loan Agency, has announced that the Metals Reserve Co. has completed arrangements to buy up to 225,000 short tons of Canadian and Mexican lead during the second half of 1941, to meet expanding defense needs in this country.

All the lead purchased and held by the Metals Reserve Co. will be allocated by the OPM.

Mr. Stettinius said, however, that no applications for allocations will be entertained until the users of lead have tried the usual methods of obtaining the metal from their suppliers.

If the total requirements of the consumers cannot be furnished by regular suppliers, however, application for an allocation should be made to the Commodity Branch handling lead, headed by Erwin Vogelsang, New Social Security building, Washington, D. C.

Lead is not under mandatory priority control at the present time. The metal held by the Metals Reserve Co. will be allocated, however, to provide for orderly distribution.



Dependable Refrigerants
VIRGINIA SMELTING CO.
WEST NORFOLK, VA.

KERO TEST

Valves and Fittings
The Standard of the Industry
Kerotest Manufacturing Co.
Pittsburgh, Pa.

GALE

CONDENSING
UNITS
Precision built for
efficient operation.
GALE PRODUCTS
1635 Monmouth Blvd. Galesburg, Ill.

Specify **ALCO**
Engineered
Refrigerant Controls for
Maximum Performance
ALCO VALVE CO. ST. LOUIS, MO.

LET US SOLVE YOUR
COIL PROBLEMS
MARLO COIL COMPANY
SAINT LOUIS, MISSOURI

BUY
ACME
PIPE COILS
JACKSON ACME INDUSTRIES MICH.

FOR TROUBLE-FREE
PERFORMANCE
USE—
AIR-MAZE
Permanent Air-Filter Panels
AIR-MAZE CORP. CLEVELAND, OHIO

3 New Offices Opened U. S. Donates To Research By OPM Priorities On Blood Dehydration

WASHINGTON, D. C.—E. R. Stettinius, Jr., Director of Priorities, has announced the opening of three new offices of the Priorities Field Service.

The new offices are located in Atlanta, Cincinnati, and San Francisco.

Field offices of the Priorities Division have previously been opened in 10 other cities. These offices are under the direction of L. Edward Scriven and E. C. Laird, Jr., Assistant Deputy Directors, and are located in: Boston, New York City, Philadelphia, Chicago, St. Louis, Denver, Detroit, Cleveland, Dallas, and Pittsburgh.

John B. Reeves will be district manager for the field service in Atlanta and will have his office in the Federal Reserve Bank in that city. He was recently southeastern regional manager for the Frigidaire Corp. He was also associated with the refrigeration and air conditioning division of the Nash-Kelvinator Corp. Andrew L. Kerr will be district manager in San Francisco and will have his office in the Federal Reserve Bank there.

Bruce W. Burroughs of Cincinnati will be district manager for that city.

Freeze and Kausch Moves

MILWAUKEE—Freeze & Kausch, appliance dealer, has moved from 5000 W. Burleigh St. to new quarters at 4732 W. Lisbon Ave.

3 CATALOGS IN 1

1. Hermetic Units
2. Compressors—Parts
3. Parts—Compressors—Evaporators
4. Frigidaire—Kelvinator—Norge
5. General Electric and etc.
6. Complete Line Refrigeration
7. Parts—Tools—Supplies

Write for Your Copy on Your Letterhead

SERVICE PARTS CO.

1101-03 N. 24th Ave. Melrose Park, Ill.

U. S. GOVERNMENT Specification

Filtrine

Cafeteria Coolers

Filtrine Mfg. Co., Brooklyn

Dayton

V-BELTS

Silent, vibrationless, dependable, long-lasting. Powerful grip prevents slippage. A money distributor carries a complete stock for appliances and machines.

THE DAYTON RUBBER MFG. CO., DAYTON, OHIO

World's Largest Manufacturer of V-Belts

FREE! 16 pages of
practical information on
Anaconda Copper
Refrigeration
Tubes



THE AMERICAN BRASS CO.
FRENCH SMALL TUBE BRANCH
General Offices, Waterbury, Conn.

MUELLER BRASS CO.
Port Huron, Mich.
TRIPLE SEAL DIAPHRAGM
VALVE
Longer Diaphragm Life
Positive Sealing at Three
Essential Points

Use CHICAGO SEALS
for seal replacements
A complete line in all sizes



CHICAGO SEAL CO.
20 North Wacker Dr., Chicago

We Sell Only Thru
Distributors of refrigeration and insulation.
Get particulars on our
SAF-T-LOC Individual Lockers
and the New "2 in 1" convertible.
Master Refrigerated Locker Systems, Inc.
121 Main St. Sioux City, Iowa
225,000 Masterbuilt Lockers in Use

Specify PENN
Automatic Controls and Switches
For Recognized Reliability
Write for Catalog
PENN ELECTRIC SWITCH CO.
GOSHEN, INDIANA

BE SURE OF DELIVERIES
Buy
Fedders COILS
AND HAVE THE ADVANTAGES OF
ALL COPPER CONSTRUCTION
FEDDERS MFG. CO. BUFFALO, N. Y.

SPORLAN
VALVES

Established **CURTIS** 1854
REFRIGERATION
AIR CONDITIONING
COMMERCIAL
Curtis Refrigerating Machine Division
of Curtis Manufacturing Company
1912 Kienlen Ave. St. Louis, Mo.

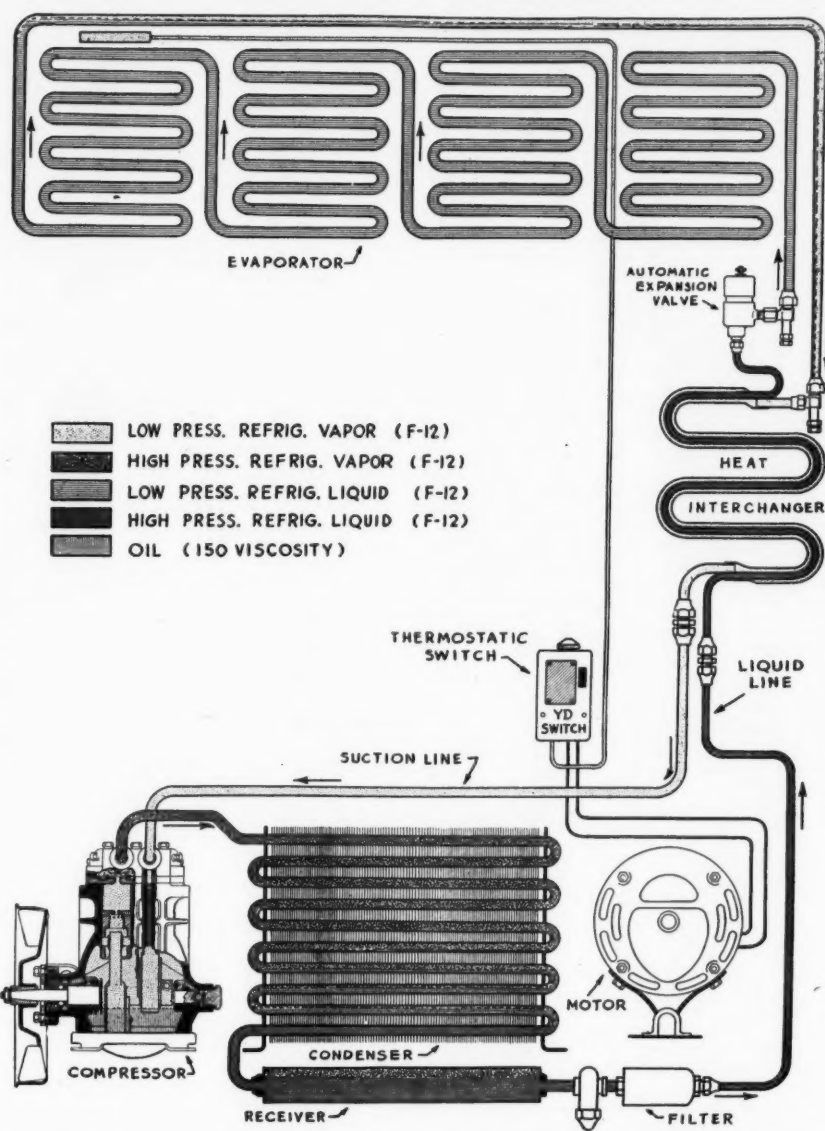
Specify
DAVISON'S
SILICA GEL
WITH
THAT BEAR
THIS LABEL
Ask your Jobber

BUNDY TUBING
ENGINEERED TO
YOUR EXPECTATIONS
BUNDY TUBING CO., DETROIT

Dealers
Wanted for
Midwestern
and Southern
States
CAMPBELL REFRIGERATOR CO.
Milwaukee, Wis.

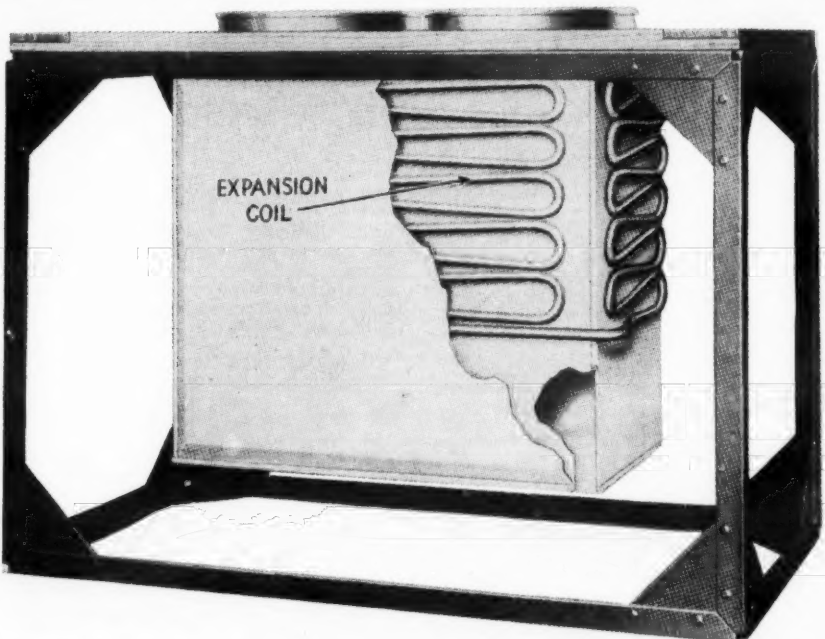
New KRAMER Catalog
Is Ready! SEND FOR
YOUR COPY
KRAMER-TRENTON CO.
TRENTON, N. J.

Fig. 5 - Circuit Using Expansion Valve



Complete refrigerant circuit in an ice cream cabinet using an automatic expansion valve can be traced in this schematic drawing.

Fig. 6 - How Coils Are Attached To Ice Cream Tank



Soldering the coil to the sheet metal tank promotes heat transfer.

Servicing Ice Cream Cabinets and Other Low Temperature Equipment

By Arch Black and Dean C. Seitz

Automatic Expansion Valve System

About 1930 the automatic expansion valve system was introduced commercially on ice cream cabinets. At that time it was used by one manufacturer on the smaller sizes of portable cabinets. Several years later many of the larger manufacturers and practically all of the smaller ones adopted this system in place of the low side float system previously discussed.

It is still in use today, particularly with the smaller manufacturers. Many variations of it have been adopted. The most common variation is the use of a thermostatic expansion valve in place of an automatic expansion valve.

Fig. 5 shows a schematic drawing of a complete automatic expansion valve system. In this system the copper tubing of the evaporator is coiled around the sheet metal tank which houses the ice cream can. This tank is insulated on all sides and when placed in a rigid frame-

work becomes the cabinet itself. Frequently the coils are soldered or otherwise attached to the sheet metal tank which houses the ice cream can. A typical cabinet of this type of construction is shown in Fig. 6.



STANGARD Prime Surface Cold plates

FOR MAXIMUM
EFFICIENT
REFRIGERATION

Specialists in the
Manufacture of
all types of
COLD PLATES

Representatives: A
few select territories
are still open. Write
us regarding our
unusual proposition.

FOR Locker Plants, Sharp Freezing,
Ice Cream Cabinets, Hardening Rooms,
Soda Fountains, Storage Rooms, Milk
Coolers, Liquid Cooling, Food Count-
ers and other similar uses.

Write us today for
complete information and catalogue.

Stangard-Dickerson Corp., 46-76 Oliver St., Newark, N. J.

YES SIR! THIS Sherer LINE IS A PROFIT MAKER

I'm satisfied with it in every respect!

"I changed over to the Sherer line a year ago and have never regretted it for one minute," says one Sherer producer. You, too, can make sure of your share of 1941's extra business by selling Sherer's complete line of display and storage refrigerators, backed by closely-knit factory cooperation.



Write today
for complete
franchise details
concerning the
Sherer line.



It's "in the Bag!"



WHEN YOU ORDER YOUR
AIR CONDITIONING
AND **REFRIGERATION**
SUPPLIES AND EQUIPMENT
BY MAIL YOU GET THE SAME
QUICK, CAREFUL SERVICE
THAT YOU RECEIVE "IN
PERSON."WRITE FOR

CATALOG ON YOUR LETTERHEAD

THE HARRY ALTER CO.
1728 S. MICHIGAN AVENUE, CHICAGO, ILLINOIS
3 CHICAGO BRANCHES, NORTH, WEST, SOUTH

NEW YORK
PHILADELPHIA
BRONX
JAMAICA
NEWARK
DETROIT
CLEVELAND
ST. LOUIS

Glamour!

Glamour is as necessary to the modern market as sanitation and smart merchandising. That's why merchants want K-Beam, for K-Beam makes fine products glamorous, appealing, and irresistible. Products are shown in true natural colors, yet look finer than ever. K-Beam is a system available only in Koch cases. It, and other distinctive Koch features, makes Koch the outstanding display case. Write today for complete details, open territories, and the Koch distributor plan.

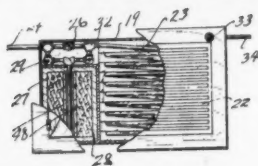
Koch **REFRIGERATORS**
NORTH KANSAS CITY, MISSOURI
You'll make money selling



PATENTS

Weeks of June 24 & July 1

2,246,506. **AIR CONDITIONER.** Beaulard J. Compton, Oildale, Calif., assignor of 14% to Herman M. Price, San Francisco, Calif., 14% to Serg Besoyan, Delano, Calif., and 15% to Ross B. Walker, 2 1/2%



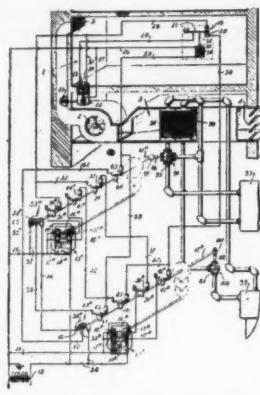
to Leland S. Hooper, and 2 1/2% to Albert Diehl, all of Bakersfield, Calif. Application Sept. 28, 1938, Serial No. 232,209. 5 Claims. (Cl. 62-141.)

1. An air conditioning unit comprising a heat exchanger, a housing, a cooling coil contained by the housing and connected to the heat exchanger, pipe means connected to the heat exchanger and coil to permit a liquid to be continuously passed therethrough, the said housing being substantially larger than the said coil, whereby a cooling medium may be packed around the coil to reduce the temperature of the liquid flowing therethrough.

2,246,550. **CONTROL FOR CONDITIONING SYSTEMS.** Duncan J. Stewart and George Forrest Drake, Rockford, Ill., assignors to Barber Colman Co., Rockford, Ill., a corporation of Illinois. Application March 18, 1938, Serial No. 196,658. 19 Claims. (Cl. 257-3.)

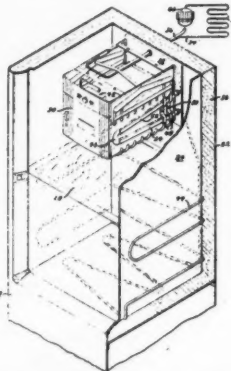
14. A temperature control system having, in combination with a cooler and a heater arranged to cool and heat a medium to be conditioned, independently movable regulating devices respectively operable to modulate the heating capacity of said heater and the cooling capacity of said cooler, a thermostat responsive to temperature changes of said medium and normally in active control of both of said

devices and means responsive to the movements of each of said devices and



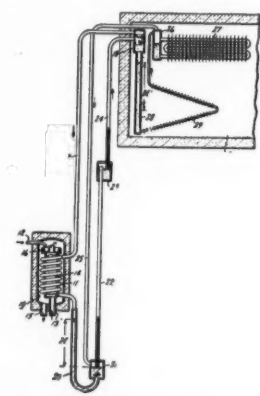
coacting with said thermostat to modulate the movements of one of said regulating devices.

2,246,551. **REFRIGERATING APPARATUS.** Carl A. Stickle, Dayton, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application Sept. 29, 1939, Serial No. 297,147. 6 Claims. (Cl. 62-116.)



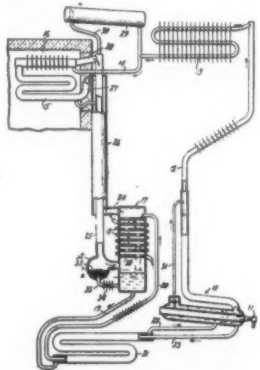
3. Refrigerating apparatus including a primary refrigerant circuit including a primary evaporator, a secondary refrigerant circuit in heat exchange relationship with the primary circuit, and thermostatic means responsive to the temperature of the primary evaporator for controlling the heat transfer between the two circuits.

2,246,553. **REFRIGERATION.** Sven W. E. Andersson, Evansville, Ind., assignor to Servel, Inc., New York, N. Y., a corporation of Delaware. Application Jan. 5, 1940, Serial No. 312,465. 15 Claims. (Cl. 62-125.)



1. A system for transmitting refrigeration from a refrigeration source to a higher elevation which includes an evaporator at said higher elevation, a condenser cooled by said refrigeration source and at a lower elevation, conduits connecting said evaporator and condenser in a circuit for volatile fluid, said conduits including means to maintain liquid columns all of which are below said evaporator and including a first column below said condenser and a second column above said condenser but below said evaporator, a vapor liquid lift for raising liquid from said first column to said second column, and a second vapor liquid lift for raising liquid from said second column to said evaporator.

2,246,555. **REFRIGERATION.** Ralph M. Buffington, Evansville, Ind., assignor to Servel, Inc., New York, N. Y., a corporation of Delaware. Application Nov. 8, 1938, Serial No. 239,439. 17 Claims. (Cl. 62-179.)

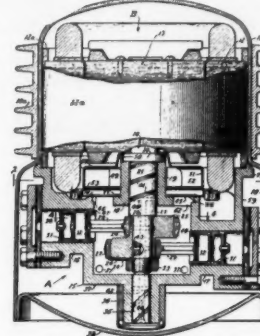


1. That improvement in inhibiting corrosion in an absorption refrigeration system containing liquid which consists in maintaining a reserve supply of solid corrosion inhibiting substance soluble in said liquid in a stream of liquid flowing to and from the active liquid containing portion of the system.

2,246,558. **COMPRESSOR.** Allen Trask, Chicago, Ill., assignor to Mills Novelty Co., Chicago, Ill., a corporation of Illinois. Application April 11, 1938, Serial No. 201,272. 16 Claims. (Cl. 230-206.)

1. A hermetically sealed compressor comprising, in combination, an outer housing, a motor shaft disposed on a vertical axis, a cylinder disposed on a horizontal axis, a piston in the cylinder including a skirt portion, a bearing projecting above the level of said cylinder, in which the shaft is journaled, means for feeding oil to said bearing, and

means for directing the oil that escapes from said bearings to a point from which

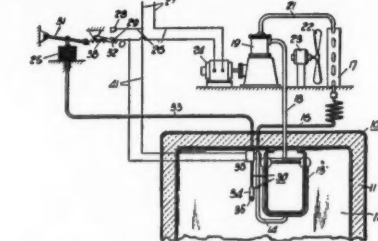


it will flow by gravity across the end of the wall of said cylinder into contact with the rear extremity of the skirt of said piston.

2,246,576. **REFRIGERATOR.** William R. Hainsworth, Larchmont, N. Y., assignor to Servel, Inc., New York, N. Y., a corporation of Delaware. Application Dec. 1, 1938, Serial No. 243,340. 1 Claim. (Cl. 62-89.)

A refrigerator having a storage compartment accessible by means of a door, refrigeration apparatus for cooling air in said compartment, a source of ultra-violet light for irradiating food or the like in said compartment, a switch operated by movement of said door for controlling said light source, and means for delaying opening of said switch after closing of the door comprising a thermostatic element and an electric heater for the element connected to be turned on and off upon opening and closing of the door.

2,246,586. **REFRIGERATION APPARATUS.** Harold D. Shaw, Longmeadow, Mass., assignor to Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., a corporation of Pennsylvania. Application July 15, 1939, Serial No. 284,634. 10 Claims. (Cl. 62-4.)



1. In a mechanical refrigerator, the combination of an insulated cabinet, a cooling unit, means for supplying refrigerant to said cooling unit, and a controlling device for said means comprising a vessel having a first portion thereof in heat exchange relationship primarily with the media in said cabinet and a second portion in heat exchange relationship primarily with the cooling unit, a volatile fluid in said vessel, said fluid being partially in the liquid phase, means responsive to the vapor pressure of said fluid for starting and stopping the flow of refrigerant from the refrigerant-supplying means to the cooling unit.

2,246,599. **AIR COOLING AND CIRCULATING DEVICE.** Willard L. Morrison, Lake Forest, Ill. Application Aug. 16, 1938, Serial No. 225,178. 5 Claims. (Cl. 62-140.)

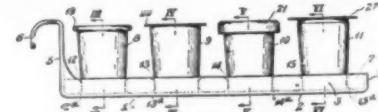
3. An air cooling and circulating device comprising a cabinet, a compressor and condenser in said cabinet, a cooling coil in the upper part of said cabinet, an opening in the cabinet having its lower edge below the bottom of said cooling coil, through which air cooled by the cooling coil drops into the lower part of the room, a closure for said opening which holds the cold air in said cabinet and provides a cold air storage, said cold air when the closure is opened dropping by gravity into the lower part of the room to quickly cool it, said cold air causing the warmer air in the lower part of the room to rise by thermosiphonic action and forming a zone of cooled air below the top of the cabinet.

2,247,017. **ICE FREEZING MOLD AND TRAY THEREFOR.** Leslie G. Henning, Cleveland, Ohio, assignor to Frank L. Sessions, Lakewood, Ohio. Application May 22, 1939, Serial No. 275,115. 18 Claims. (Cl. 62-108.5.)



1. An ice mold composed of a tube of heat-conducting material, said tube being tapered inwardly at one end, and tapered outwardly at its other end, the interior dimensions of said outwardly tapered portion being the same as the exterior dimensions of said inwardly tapered portion whereby the inwardly tapered portion of one such tube may be telescoped into the outwardly tapered portion of a like tube, the end of the inwardly tapered portion of said tube being closed except for a relatively small opening through it to the interior of said tube.

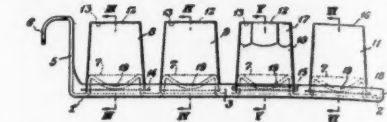
2,247,018. **ICE FREEZING MOLD.** Leslie G. Henning, Cleveland, Ohio, assignor to Frank L. Sessions, Lakewood, Ohio. Application May 22, 1939, Serial No. 275,116. 9 Claims. (Cl. 62-108.5.)



1. In refrigerating apparatus an ice freezing mold having an ice exit in its top end and an opening in its bottom end, and a closure for said bottom end com-

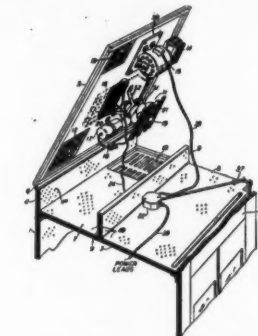
prising a base for supporting said mold having a socket removably receiving said mold and making a substantially air-tight fit with its outer surface.

2,247,019. **INDIVIDUAL ICE MOLD.** Leslie G. Henning, Cleveland, Ohio, assignor to Frank L. Sessions, Lakewood, Ohio. Application May 22, 1939, Serial No. 275,117. 8 Claims. (Cl. 62-108.5.)



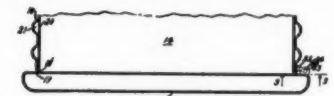
1. In refrigerating apparatus, an individual ice mold comprising a cup of circular cross section, having an ice exit at its bottom end, an aperture at its top end, and a substantially air-tight, removable, mold supporting closure for its bottom end having a depression in its top surface eccentric to the axis of said mold, said aperture being eccentric to said mold axis.

2,247,028. **TELEPHONE BOOTH COOLING APPARATUS.** Frank A. Kuntz, Woodhaven, N. Y., assignor to Bell Telephone Laboratories, Inc., New York, N. Y., a corporation of New York. Application Oct. 29, 1940, Serial No. 363,367. 8 Claims. (Cl. 62-6.)



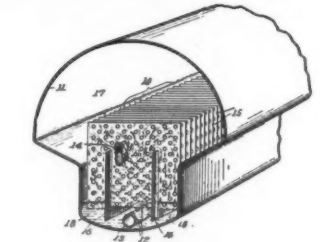
1. In a telephone booth having side walls, a rear wall and a front wall, a ceiling and a roof supported by the walls of the booth and forming therewith an upper chamber, a cooling apparatus mounted on the roof and housed in said chamber, said roof having an opening formed therein to provide ventilation for said chamber and said ceiling having an opening formed therein in register with said cooling apparatus to permit air cooled by means of said apparatus to pass from said chamber to the lower portion of said booth.

2,247,063. **REFRIGERATOR.** Delbert F. Newman, Schenectady, N. Y., assignor to General Electric Co., a corporation of New York. Application April 24, 1940, Serial No. 331,444. 4 Claims. (Cl. 62-69.)



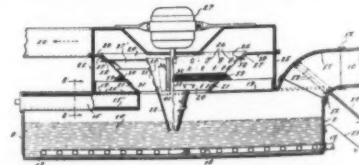
1. In a refrigerator cabinet, a cooling element, said element being provided with an opening at the front thereof, a closure member constructed and arranged for closing said opening, a portion of said member being so arranged that when said member is in the closed position said portion is disposed in a relatively good thermal association with the edges of said opening, said member being formed from a material having relatively high heat conducting characteristics as compared to the material from which said element is formed.

2,247,107. **REFRIGERANT EVAPORATOR.** Robert W. Waterfall, Montclair, N. J., assignor to Buensod-Stacey Air Conditioning, Inc., New York, N. Y., a corporation of Delaware. Application Sept. 30, 1938, Serial No. 232,581. 18 Claims. (Cl. 62-126.)



2. A shell and tube refrigerant evaporator of the type wherein the tube bank is not submerged in liquid refrigerant, such evaporator comprising a shell adapted to serve as a path for a refrigerating fluid, a bank of tubes extending through the shell and serving to conduct a fluid to be cooled, means defining a plurality of channels extending crosswise of and vertically within the bank of tubes and including the outer surfaces of the tubes.

2,247,119. **AIR CONDITIONING APPARATUS.** John H. Pedler, New York, N. Y. Application Oct. 27, 1938, Serial No. 237,172. 9 Claims. (Cl. 261-91.)



4. In an air conditioning apparatus, a reservoir for liquid, a blower disposed above the normal level of liquid in said reservoir and comprising two truncated hollow cones disposed with their small ends downward and both rotatable about a vertically extending axis, vanes to discharge air into the space in the reservoir above said level, an outlet from said blower above said cones, and means to rotate said cones about said axis, said vanes having dust-catching pockets at their upper edges extending to said outer cone, said outer cone having holes therein communicating with said pockets.

(Continued on Page 11, Column 1)

"TOPS" IN QUALITY, VARIETY AND PROFIT
MAKING MONEY AND FRIENDS FOR HUNDREDS OF DEALERS EVERYWHERE
A REAL DEALER PROPOSITION . . . INQUIRE TODAY

FOGEL REFRIGERATOR COMPANY Since 1899
Philadelphia, Penna.

Henry DEHYDRATOR

With Refill Plug and Dispersion Tube

An inexpensive refillable large capacity dryer. It takes only a minute to unsolder the plug at the end of the unit, pour out the old dehydrant and replace it with a new charge.

ASK YOUR JOBBER FOR IT
Filled with Silica Gel

HENRY VALVE CO.
1001-19 N. SPAULDING AVE.
CHICAGO

DAIRY CASE **WALK IN** **REACH IN** **VEG-CASE** **STREAMLINER**

Increase your Income the PERCIVAL way

Sell the "Dealer's Choice"—the line that's COMPLETE in model, size, purpose and price—the PERCIVAL LINE. Write for attractive money-making proposition.

"1886-55 years of Satisfactory Service—1941"

C.L. PERCIVAL COMPANY, BOONE, IOWA

MANY INSPECTIONS MAKE STRAIGHT ARROW THAT BRINGS IN THE BUCKS!

Only by making many inspections on every operation can we build compressors that are worthy of the name, CHIEFTAIN.

TECUMSEH PRODUCTS CO.
TECUMSEH, MICH.

INVESTIGATE NEW TYLER DRY-KOLD BEVERAGE COOLER

★ SALES POSSIBILITIES exist everywhere, right now, for this better, more sanitary DRY bottle cooler. The complete Tyler line for 1941 is just as up-to-the-minute and salable—with Sectional Steel Clad Walk-In Coolers, Welded Steel Reach-In Boxes and Display Cases to meet every possible need. Write TYLER FIXTURE CORPORATION, DEPT. R-1, NILES, MICHIGAN, today!

TYLER DEALERS ARE MAKING MONEY!

Only POLARTRON
Offers truly Independent Adjustment

This exclusive MINNEAPOLIS-HONEYWELL feature enables you to change either the ON or OFF pressure without affecting the other

MINNEAPOLIS-HONEYWELL
MINNEAPOLIS-HONEYWELL REFRIGERATION CONTROL COMPANY
1001 FOURTH AVENUE SOUTH MINNEAPOLIS, MINNESOTA

Patents (Cont.)

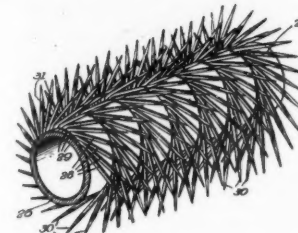
(Concluded from Page 10, Column 5)

2,247,199. METHOD OF MAKING HEAT EXCHANGERS. Richard W. Kritzer, Chicago, Ill., assignor to Thermek Corp., Chicago, Ill., a corporation of Delaware. Application Aug. 26, 1938, Serial No. 226,880. 5 Claims. (Cl. 29-157.3.)



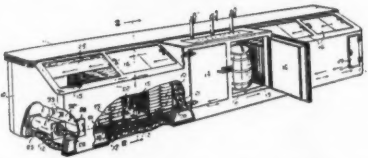
1. That improvement in making plates for use in heat exchangers which comprises gouging and transversely bending spines from the face of a substantially flat plate in rows spaced from one another by longitudinally overlapping cuts so that the spines will be longer than the spaces between the rows and the roots of the spines in the rows will be substantially contiguous.

2,247,243. HEAT EXCHANGE ELEMENT AND METHOD OF MAKING THE SAME. Richard W. Kritzer, Chicago, Ill., assignor to Thermek Corp., Chicago, Ill., a corporation of Delaware. Application July 11, 1938, Serial No. 218,585. 25 Claims. (Cl. 29-157.3.)



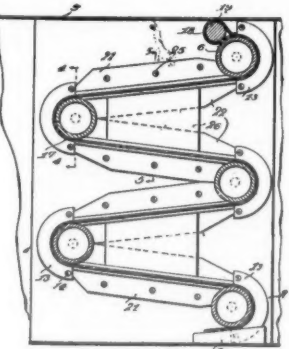
1. A heat transfer element comprising a wall and spines integral therewith, consisting of rows of slivers of stock cut out of the portion of the wall and having their outer portions bent to project from the wall and spread apart, the slivers in the rows having contiguous roots and longitudinally extending edges from the said face of the wall to their outer edges.

2,247,274. REFRIGERATED DISPLAY CASE. Jack J. Booth, Dallas, Tex. Application Dec. 23, 1940, Serial No. 371,256. 6 Claims. (Cl. 62-89.5.)



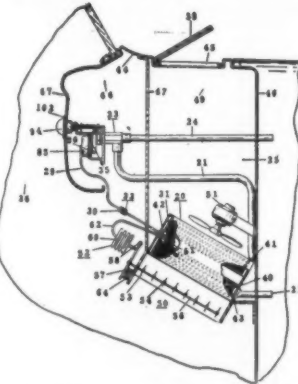
1. In a refrigerated merchandise display case having insulated walls, top and bottom, means defining an air passage along the bottom of said case substantially the length thereof, a refrigerating coil in said passage, a louvered false bottom defining an air duct for passage of air counter to that in said first air passage, a vertical air duct at one end of said case effecting communication between said air passages and the upper portion of said case, means for effecting circulation of air normally through said first passage for return by downward deflection toward and through said first air duct and means for introducing external air into said case and confining the same for circulation through said first air passage and first air duct to defrost said coil.

2,247,326. AIR FILTER. Emil George Ziemann, Washington, D. C. Application July 26, 1940, Serial No. 347,747. 9 Claims. (Cl. 133-71.)



2. An air filter for mounting in a rectangular air duct comprising a pair of side members, a series of extensible supporting rods between said side members, means for adjusting said rods to expand said side members into tight engagement with the walls of the air duct, and a filter cloth passing over said supporting rods transversely of the duct.

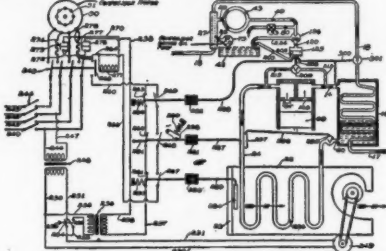
2,247,405. CONTROL APPARATUS. Eldon D. Raney, Columbus, Ohio, assignor to Ranco, Inc., Columbus, Ohio, a corporation of Ohio. Application April 28, 1938, Serial No. 204,823. 5 Claims. (Cl. 236-37.)



1. In combination, means forming an enclosure for air; a heat interchanger associated with the enclosure for affecting the temperature of the air in the enclosure; means operable for attaining

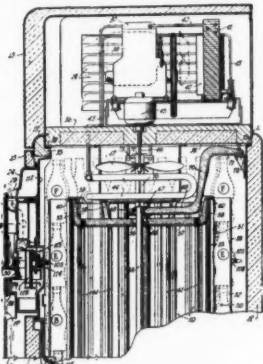
a desired temperature of air within the enclosure and operable after said desired temperature is attained, for preventing the temperature of the air emanating from the heat interchanger from varying beyond a certain temperature.

2,247,449. COMPRESSOR CONTROL. Charles R. Neeson, Dayton, Ohio, assignor, by mesne assignments, to Chrysler Corp., Highland Park, Mich., a corporation of Delaware. Application May 29, 1937, Serial No. 145,587. 6 Claims. (Cl. 62-4.)



3. In a refrigerating system having high-pressure and low-pressure sides and a compressor discharging a refrigerating medium to said high-pressure side and drawing said medium from said low-pressure side, a fluid pressure system for circulating a lubricating medium through said compressor when said compressor is in operation, and means controlled by said fluid pressure system to load the compressor when the compressor is in operation and to unload the compressor.

2,247,575. DISPENSING APPARATUS. Tully De Stefani, Chicago, Ill., assignor, by mesne assignments, to The Bastian-Blessing Co., Chicago, Ill., a corporation of Illinois. Application March 25, 1938, Serial No. 198,155. 8 Claims. (Cl. 62-102.)

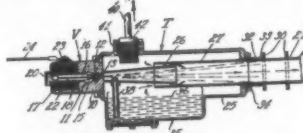


1. In a dispensing machine having a cabinet with refrigerating heat exchange means suspended from its top and a fan above the heat exchange means for directing air downwardly therepast, the combination with said cabinet and heat exchange means of a dispensing drum of skeletonized construction with means for retaining articles about its outer periphery and mounted in said cabinet for rotation about a vertical axis by journal means situated near the opposite axial ends of the drum.

2,247,736. REFRIGERATOR. Robert H. Tull, Springfield, Mass., assignor to Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., a corporation of Pennsylvania. Application July 20, 1938, Serial No. 220,207. 5 Claims. (Cl. 62-102.)

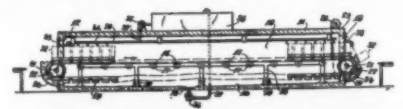
1. In a refrigerator, the combination of a chamber, a flat, substantially horizontal cooling unit therein and adjacent to but spaced from the top thereof, said cooling unit co-operating with the walls of said chamber to prevent passage of substantial quantities of air around the edges of the cooling unit, a multiplicity of closely spaced transverse air passages substantially throughout the flat surface of the cooling unit, a duct communicating with the lower portion of the chamber and with the space between the cooling unit and the top of the chamber and means for forcibly propelling air upwardly through said duct, said air traveling downwardly and substantially uniformly through all of the air passages of the cooling unit.

2,247,850. REFRIGERATION METHOD AND APPARATUS. Alden G. Rayburn, Sausalito, Calif., assignor of one-half to William H. Brooks, San Francisco, Calif. Application June 21, 1938, Serial No. 215,010. 12 Claims. (Cl. 62-92.)



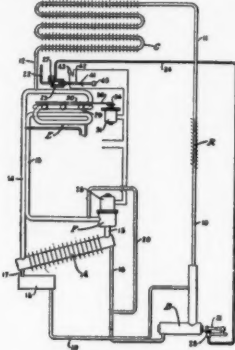
1. In a method of the character described, the steps of releasing a liquefied gas in the form of a blast, supplying another liquid of lower freezing point to the blast and utilizing the kinetic energy of said blast to form therefrom a jet of atomized liquid, and directing said blast and said jet together in a defined path through a medium to be cooled.

2,247,865. METHOD AND APPARATUS FOR FREEZING. Mikal T. Zarotschen-zeff, New York, N. Y., Earl Stafford, North Reading, Mass., and Charles H. Welling, New Canaan, Conn., assignors to Z Pack Corp., Jersey City, N. J., a corporation of Delaware. Application Dec. 9, 1936, Serial No. 114,900. 13 Claims. (Cl. 62-104.)



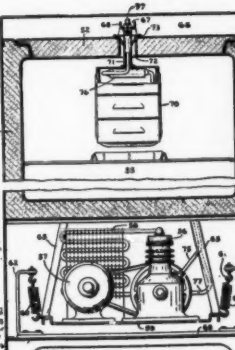
1. Apparatus for freezing food products comprising a chamber forming means, means in the chamber to support food products, means in the chamber to position the last named supporting means.

2,247,903. REFRIGERATION. George A. Brace, Winnetka, Ill., assignor to The Hoover Co., North Canton, Ohio. Application Feb. 3, 1938, Serial No. 188,433. 16 Claims. (Cl. 62-105.)



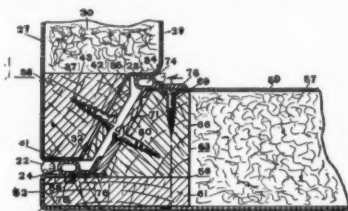
1. In a refrigerating system, a refrigerating unit, a resiliently mounted platform supporting said unit, said platform being vibrated as a result of the vibration set up by the operation of said unit.

2,247,904. REFRIGERATION. George A. Brace, Winnetka, Ill., assignor to The Hoover Co., North Canton, Ohio. Application Feb. 3, 1938, Serial No. 188,434. 19 Claims. (Cl. 62-105.)



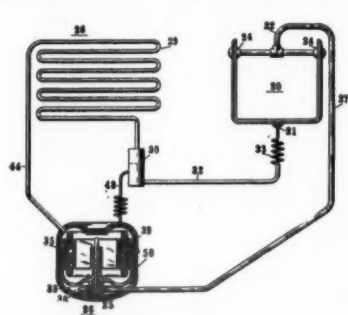
1. A mechanical refrigerator, comprising an evaporator adapted to accommodate a refrigerator tray, a refrigerator unit resiliently mounted in said refrigerator, said unit vibrating as a result of the operation of the same.

2,247,949. REFRIGERATING APPARATUS. Andrew A. Kucher, Dayton, Ohio. Application Sept. 24, 1936, Serial No. 102,368. 2 Claims. (Cl. 220-9.)



2. In an insulated wall structure, a frame member; a cover for the frame; a sealing strip covering an edge of said cover; a second cover for the frame having an edge engaging said sealing strip for holding the latter in place.

2,247,950. REFRIGERATING APPARATUS. Andrew A. Kucher, Dayton, Ohio. Application Oct. 7, 1936, Serial No. 104,479. 2 Claims. (Cl. 62-115.)



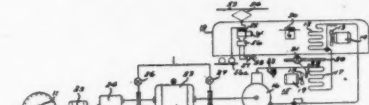
1. A closed refrigerating system comprising in combination, an evaporator; a compressor for withdrawing gaseous refrigerant from the evaporator and for compressing the same; a motor for driving the compressor; a condenser for receiving the compressed refrigerant and for liquefying the same.

2,248,036. REFRIGERATING APPARATUS. John A. Macready, San Francisco, Calif., and De Witt E. Wyatt, Columbus, Ohio, assignors to General Motors Corp., a corporation of Delaware. Original application Sept. 29, 1928, Serial No. 309,216, now Patent No. 2,051,874, dated Aug. 25, 1936. Divided and this application Aug. 10, 1934, Serial No. 739,252. Renewed Aug. 18, 1939. 4 Claims. (Cl. 299-13.)

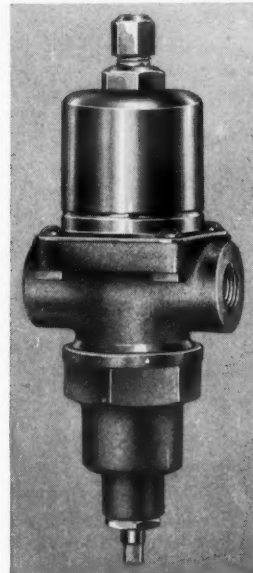
1. In a water cooler having an inner frame and outer panel members covering said frame, a sheet metal top member having a well portion, a flat portion surrounding said well and an embossed portion flat portion surrounding said flat portion and terminating in a skirt overlying said panel members and spaced therefrom on all sides of said cooler so as to prevent water from running down the sides of said panel members, each of said portions being formed integral with said top member, said well portion extending below the general plane including said other portions and provided with a water bubbler and a drain plate.

REISSUE

21,837. REFRIGERATING APPARATUS. Donald F. Alexander, Charles F. Kenney, and Charles L. Paulus, Dayton, Ohio, assignors to General Motors Corp., Dayton, Ohio, a corporation of Delaware.



Original No. 2,104,382, dated Jan. 4, 1938, Serial No. 129,024, March 4, 1937. Renewed Sept. 16, 1937. Application for reissue June 29, 1938, Serial No. 216,630. 30 Claims. (Cl. 62-117.)



No. 614

AMINCO

WATER REGULATING VALVE

(Pressure Controlled)

Aminco No. 614 Water Valve is used to regulate the amount of water passing through water-cooled condensers. The valve is quiet in operation, free from chattering; practically friction-free and provides a maximum flow of water with a minimum head pressure differential.

Aminco Water Valves have a double bellows seal, removable body seat and will operate on all refrigerants except ammonia. Standard connections $\frac{3}{8}$ " x $\frac{3}{8}$ " F. P. T. Send for Bulletin No. 15.

AMERICAN INJECTOR COMPANY

1481 FOURTEENTH AVENUE, DETROIT, MICH.
Pacific Coast: Van D. Clothier, 1015 E. 16th, Los Angeles, Calif.
Export: Borg-Warner International Corp., 310 S. Michigan Ave., Chicago

You can SPEED UP your flaring!



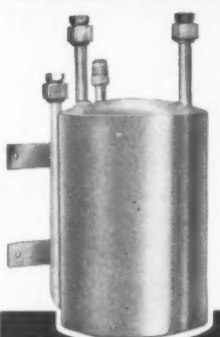
The new Imperial Flaring Tool with slip-on yoke, provides ease and speed of operation never before attained in a flaring tool. The yoke is made so that it can be slipped on over the bar without twisting or turning. The inside edges of the yoke are slotted so that once in position a slight turn holds it in place on the bar. Yokes are made of forged steel. An additional advantage of this tool is the construction of the bottom of the yoke, which permits flares to be made where there is little space between nut and the end of tubing. Flare tubing sometimes offers this problem. Flares soft copper, brass or aluminum tubing. No. 195-F Imperial Flaring Tool, flares $\frac{1}{4}$ ", $\frac{3}{8}$ ", $\frac{1}{2}$ " and $\frac{5}{8}$ " O. D. tubing. Price each \$4.25. Also available for all other sizes of tubing. THE IMPERIAL BRASS MFG. CO., 565 S. Racine Ave., Chicago, Ill.

IMPERIAL

VALVES • FITTINGS • TOOLS
CHARGING LINES • FLOATS
STRAINERS • DEHYDRATORS

ORDER FROM
YOUR JOBBER

Originators of The Cross Fin Coil



NEW WATER COOLERS

INSTANTANEOUS DIRECT EXPANSION
Junior Larkin Water Coolers meet the requirements for cooled drinking water in all refrigerated fixtures and other applications within their range. Write for details now.

LARKIN COILS, INC.
519 Memorial Drive, S. E., Atlanta, Ga.



REFRIGERATION PRODUCTS

Ranco

REPLACEMENT CONTROLS

- ★ EASY TO INSTALL
- ★ MORE EXACT REPLACEMENTS
- ★ DURABLE
- ★ DEPENDABLE
- ★ PROFITABLE

ASK YOUR RANCO JOBBER

Ranco INC.
COLUMBUS, OHIO

Kelvinator Sales Staff Setup



E. RAY LEGG



DON RULO



DAN PACKARD



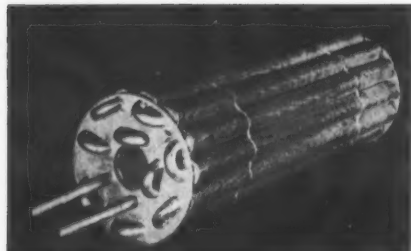
C. J. BACHMAN

Here's Kelvinator's new sales executive lineup under General Sales Manager Lawson, following the recent appointment of Frank Pierce as vice president in charge of sales of both Kelvinator and Nash divisions. E. Ray Legg succeeds Mr. Lawson as sales manager of the household appliance division; Don Rulo succeeds Mr. Legg as western sales manager; C. J. Bachman is Pacific Coast sales manager; Dan Packard is eastern sales manager; and Thomas A. Farrell is head of the recently created commercial parts and service division.



TOM FARRELL

No Joints! No Leaks



This Rome Jointless Water Cooled Condenser is a typical example of Rome's ability to provide trouble free condensing equipment. Rome Water Cooled Condensers are used by many leading compressor manufacturers. Write for complete information.

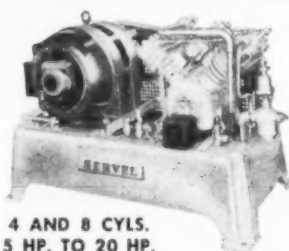
ROME-TURNEY RADIATOR COMPANY

222 Canal Street
ROME, N. Y.

SERVEL MACHINES

FOR HIGH-CAPACITY REQUIREMENTS

These heavy-duty models are designed for large commercial or industrial applications. For liquid cooling, locker storage, food processing, etc. 4 and 8 cylinders. 5 to 20 HP. Available with water-cooled condensers or for use with evaporative condensers. Write for details. Servel, Inc., Electric Refrigeration and Air Conditioning Division, Evansville, Indiana.



4 AND 8 CYLS.
5 HP. TO 20 HP.

Room Coolers Pace Chicago Sales Gain

(Concluded from Page 1, Column 4)
Commonwealth Edison Co.

Contracts were reported for 295 central-plant air conditioning installations with a combined capacity of 10,201 hp. This compares with 267 systems, totaling 6,531 hp., sold in the corresponding period of 1940, and 277, aggregating 9,694 hp., in the former peak six-month period of 1937. A total of 829 room coolers were sold in the first half of 1941, as against 526 for 6 months of 1940.

Henderson Explains Refrigerator Cut

(Concluded from Page 1, Column 5)

"The proposed program provides for an orderly curtailment in those industries where reductions will do the least harm, and is expected to relieve the heavy pressure on mills and factories for immediate and near immediate deliveries for all kinds of civilian and defense materials."

It was announced that representatives of the affected industries would be called to conferences here soon to work out further details of the reduction. On the basis of these conferences, an allocation program will be worked out by Joseph L. Weiner, director of the OPACS allocation section, and sent to the OPM Priorities Division for administration and enforcement.

Knowlton Appointed Head of Airtemp's Sales Promotion

(Concluded from Page 1, Column 1)

For the past four years Mr. Knowlton has been a member of the editorial staff of AIR CONDITIONING & REFRIGERATION NEWS, reporting activities of the air conditioning industry. In this capacity he has covered most of the country, reflecting progress in air conditioning with signed articles, news stories, and photographs.

During 1939 Mr. Knowlton did preliminary organization work in connection with the National Air Conditioning Association, and has served for the past four years as secretary of the Air Conditioning Association of Michigan. In recent months he assisted in the formation of the newly organized Refrigeration Contractors Association of Detroit.

Mr. Knowlton has been associated with the heating and air conditioning industry for 12 years, serving the Doherty-Brehm Co., Timken Silent Automatic Co., Frigidaire, and Kelvinator Corp. in sales and promotional capacities. This work was closely associated with the introduction of direct-expansion air conditioning systems, the development of efficient automatic heating equipment, and the marketing of year-around systems for homes and commercial establishments.

Graduating from Oberlin College with honors in 1927, Mr. Knowlton attended the University of Michigan Law School, and later received an M.A. degree from Oberlin.

Air Conditioning Men Meet With OPACS

(Concluded from Page 1, Column 1)
orders, and related their difficulties in getting materials for use in production for civilian purposes.

OPACS men would not commit themselves as to the size of the cut in production for civilian supplies which air conditioning and industrial refrigeration would be called upon to take. They are studying the situation, however, and further pronouncements on the situation will be made within a few weeks.

Wampler To Become Active In Carrier

(Concluded from Page 1, Column 4)

years, has been associated with Carrier since 1932. He has been a director for the last seven years, and served on the executive committee from 1935 to its discontinuance in 1938. He will continue to serve as chairman of the finance committee, a position he has held for several years.

A year after joining the Harris Trust & Savings Bank of Chicago in 1916, Mr. Wampler entered the First Officers Training Camp at Fort Sheridan, Ill., and served in the U. S. Army as a general staff officer in this country and abroad. He returned to the bank after the war, later becoming a partner in Taylor, Ewart.

In 1929, he was made a vice president and director of Lawrence Stern & Co., Inc.



DEPENDABLE VALVES

RESPONSIBLE..

Refrigerant Control for Ice Cream

Delightful treat for children and grownups alike, Ice Cream, in all its many delicious flavors, depends on RESPONSIBLE Refrigeration in every step of its production and sale.



A-P DEPENDABLE VALVES are responsible for ice cream hardening rooms and dispensing cabinets.

And these A-P Valves are daily proving their reputation for "Responsible Refrigerant Control" to such advantage that Refrigeration Engineers who install them never think of a substitute.

For Satisfied Customers and Higher Profits in Refrigeration Service work, make A-P DEPENDABLE VALVES standard equipment on YOUR new and replacement jobs.

★ Progressive Service Engineers use and recommend—and aggressive Jobbers stock—and talk—A-P Products

AUTOMATIC PRODUCTS COMPANY
2450 NORTH THIRTY-SECOND STREET
MILWAUKEE WISCONSIN

Export Department
100 Varick Street . . New York City



MODEL 205 Thermo-static Expansion Valve. A small, compact Valve for capacities up to 2 tons. Freon. Leak-proof. Super-sensitive. Accurate. Full liquid-charged power element permits installation in any position or ambient temperature.



DEPENDABLE

Refrigerant Valves